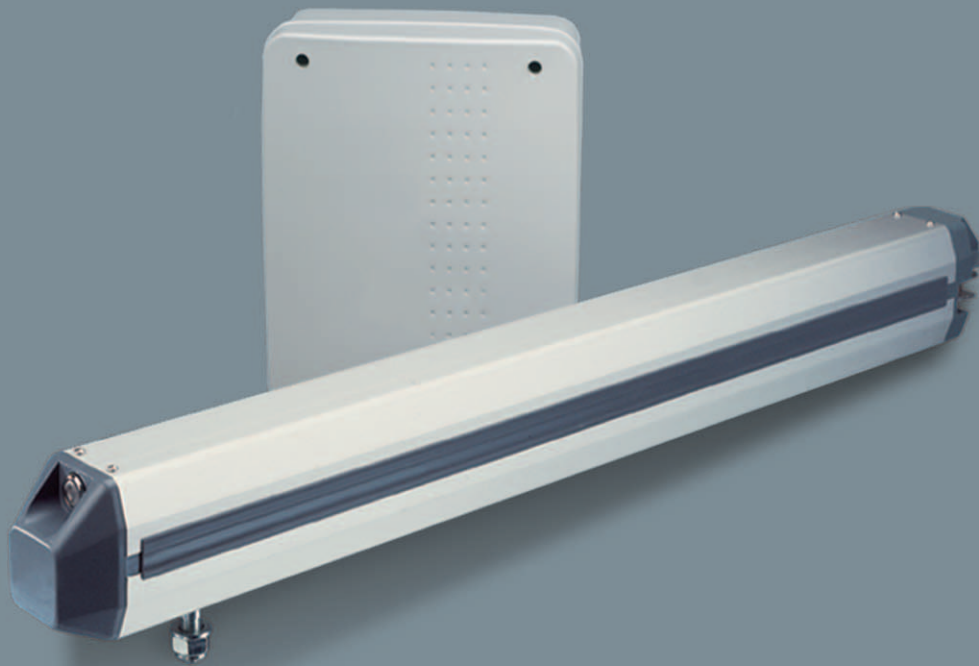


## MIRACLE-ONE™

### VEHICULAR ACTUATOR GATE OPERATOR



### OWNER'S MANUAL

THE MIRACLE-ONE™ IS FOR USE ON VEHICULAR PASSAGE GATES ONLY  
AND NOT INTENDED FOR USE ON PEDESTRIAN PASSAGE GATES.

**UL325**  
compliant



**UL991**  
compliant



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## **WARNING**

*Mechanical*

## **WARNING**

*Electrical*

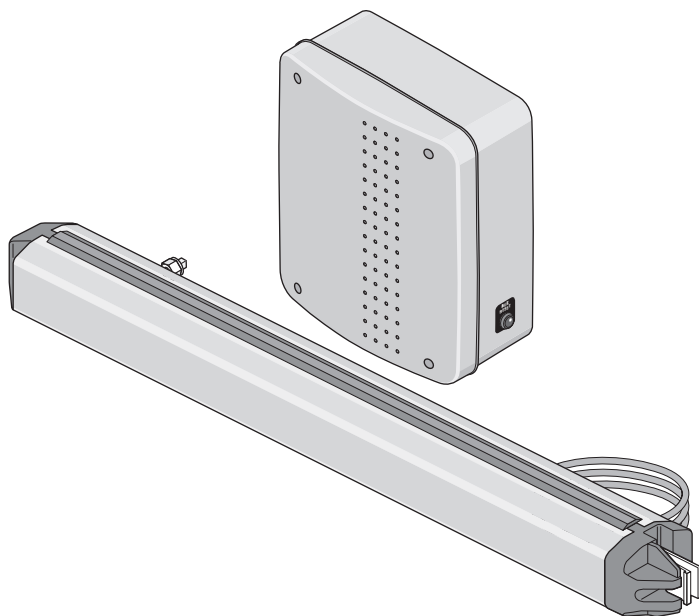
## **CAUTION**

When you see these Safety Symbols and Signal Words on the following pages, they will alert you to the possibility of serious injury or death if you do not comply with the warnings that accompany them. The hazard may come from something mechanical or from electric shock. Read the warnings carefully.

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your gate and/or the gate operator if you do not comply with the cautionary statements that accompany it. Read them carefully.

### **IMPORTANT NOTE**

- **BEFORE** attempting to install, operate or maintain the operator, you must read and fully understand this manual and follow all safety instructions.
- **DO NOT** attempt repair or service of your residential gate operator unless you are an Authorized Service Technician.



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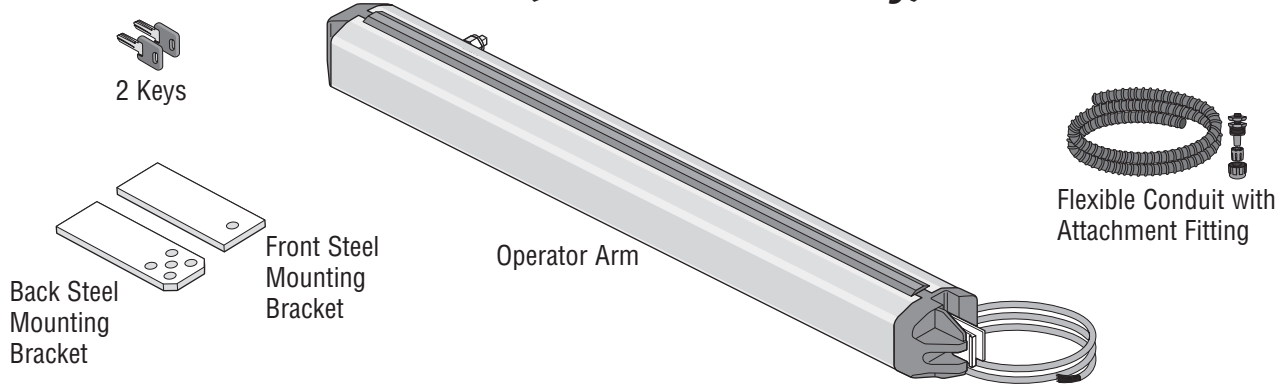
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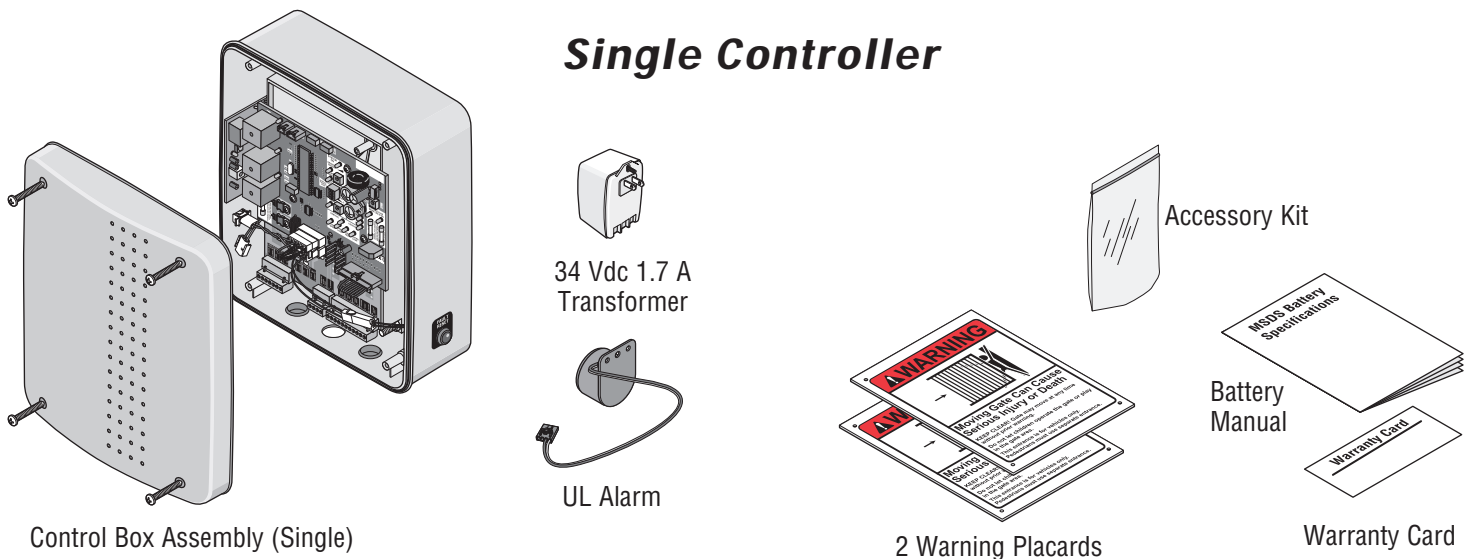
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# CARTON INVENTORY

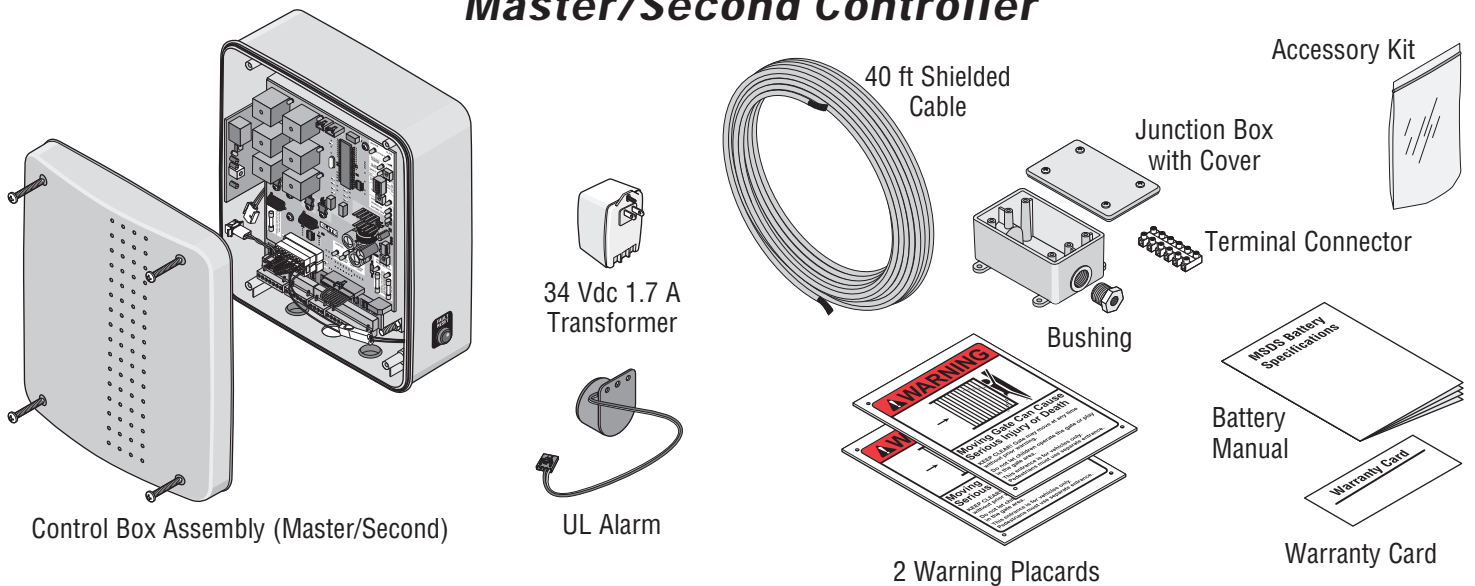
## Arm (Sold Individually)



## Single Controller



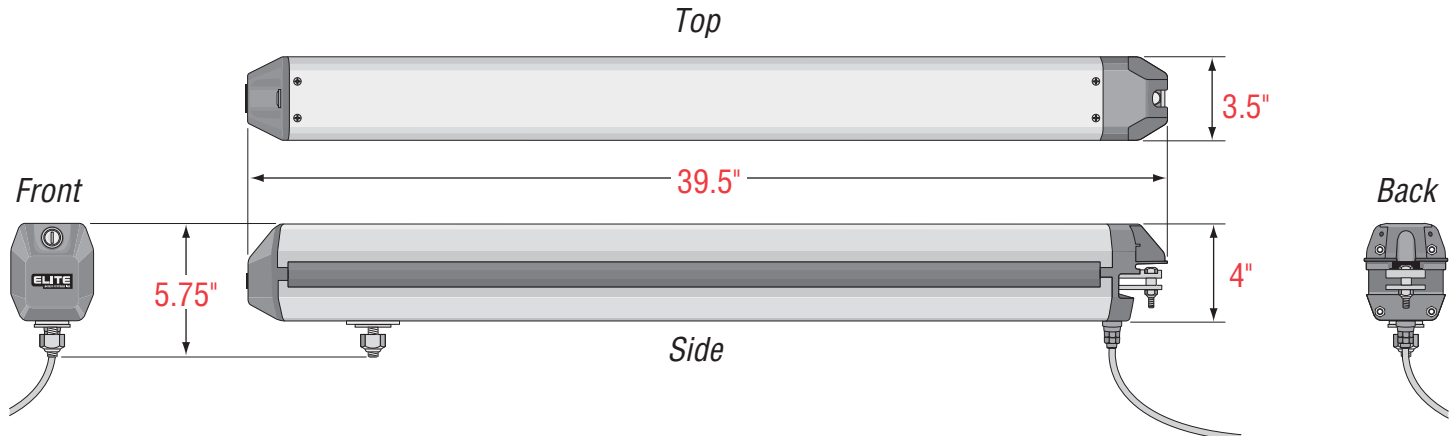
## Master/Second Controller



# SPECIFICATIONS

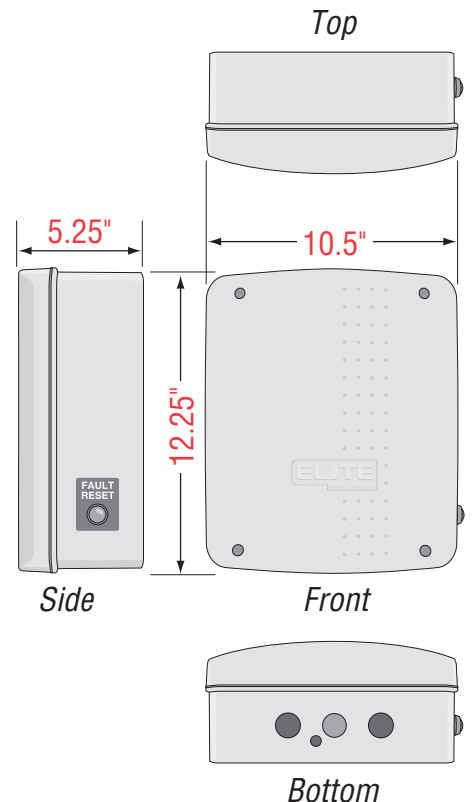
## Mechanical Specifications

<b>Motor –</b>	24 Vdc, 12 Amps.
<b>Cycles –</b>	100 / Day. (Consult factory for solar applications)
<b>Shipping Weight:</b>	<i>Single Unit: 58 lbs. – Master/Second: 89 lbs.</i>
<b>Torque –</b>	600 lbs. of torque.
<b>Finishing –</b>	Aluminum.
<b>Capabilities –</b>	Maximum gate size 15' wide, 600 lbs.
<b>Operator Travel Speed –</b>	14 to 18 seconds 90 opening.



## Electrical Specifications

<b>Running System –</b>	Uses a Microcontroller with built-in “watchdog” system.
<b>Modular Board –</b>	Board uses LEDs to indicate all input and output functions.
<b>Sensor –</b>	When the gate makes contact with an object while opening or closing, the gate will reverse for 1 second then go into neutral, so it can be pushed by hand.
<b>Timer –</b>	Can be set from 3 to 60 seconds, or “push- open/stop/close” operation.
<b>Master/Second –</b>	Dictates synchronized movement between two gate operators.
<b>Safety Loop Input –</b>	Anti-tailgating system uses a “stop only” method of operation. Will not work as a commercial loop system.
<b>Alarm Output –</b>	Can be interfaced with any home alarm system. Alarm will sound if the gate is forced open manually. Optional siren can be installed.
<b>Stop/Reset Button –</b>	Stops gate or resets UL alarm.
<b>Spike Suppressors –</b>	Protected by spike suppressors.
<b>Alternate Outputs –</b>	Sensor alarm, alarm system, and magnetic locks.
<b>Electronic Inputs –</b>	Factory installed radio receiver, full-control system “push-open/stop/close”, safety loop, photocell, telephone entry, and key switch.
<b>Housing Finish –</b>	Weather proof.



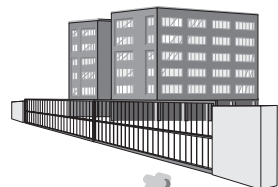
# UL325 MODEL CLASSIFICATIONS

The Miracle-One™ is intended for use in Class I - III vehicular swing gate applications:



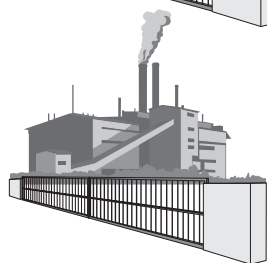
## **Class I – Residential vehicular gate operator**

A vehicular gate operator (or system) intended for use in a home of one-to four single family dwellings, or a garage or parking area associated therewith.



## **Class II – Commercial/General access vehicular gate operator**

A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units) hotel, garage, retail store or other building servicing the general public.



## **Class III – industrial/limited access vehicular gate operator**

A vehicular gate operator (or system) intended for use in a industrial location or building such as a factory or loading dock area or other location not intended to service the general public.

## UL325 ENTRAPMENT PROTECTION REQUIREMENTS

This chart illustrates the entrapment protection requirements for each of the three UL325 classes.

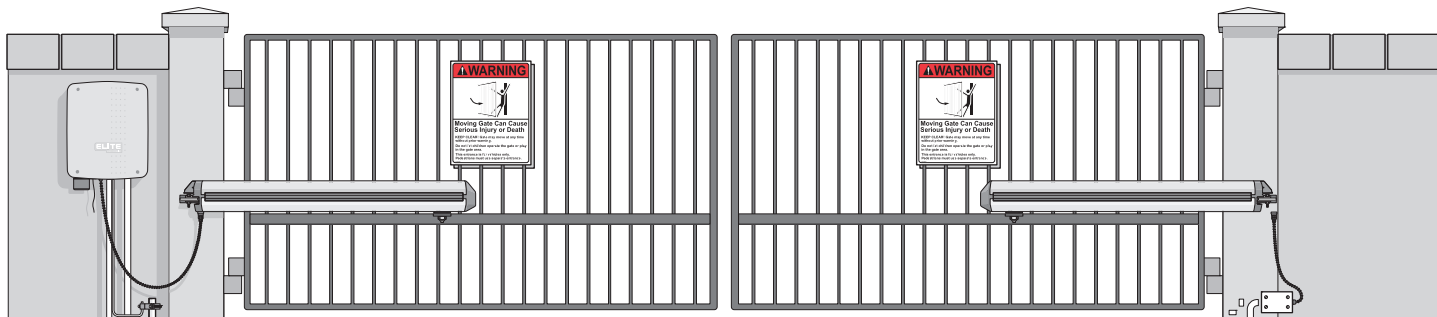
### GATE OPERATOR ENTRAPMENT PROTECTION

UL325 Installation Classification	Slide Gate Operator		Swing & Gate Barrier (Arm) Operator	
	Primary Type	Secondary Type	Primary Type	Secondary Type
<b>Class I</b> <b>Class II</b>	A	B1, B2 or D	A or C	A, B1, C, or D, B2
<b>Class III</b>	A, B1, B2 or B2	A, B1, D or E	A, B1, C or C	D or E

In order to complete a proper installation you must satisfy the entrapment protection chart shown. That means that the installation must have one *primary* means of entrapment protection and one independent *secondary* means of entrapment protection. Both primary and secondary entrapment protection methods must be designed, arranged or configured to protect against entrapments in both the open and close directions of gate travel.

**For Example:** For a gate system that is installed on a single-family residence (UL325 Class I) you must provide the following: As your *primary type* of entrapment protection you must provide

- **Type A** - inherent (built into the operator) entrapment sensing and at least one of the following as your *secondary entrapment protection*:
- **Type B1** - Non-contact sensors such as photo-eyes,
- **Type B2** - Contact sensors such as gate edges or
- **Type D** - Constant pressure control.
- **Type E** - Built-in audio alarm.



**NOTE:** UL requires that all installations must have warning signs placed in plain view on both sides of the gate to warn pedestrians of the dangers of motorized gate systems.

# SAFETY INSTALLATION INFORMATION

1. Vehicular gate systems provide convenience and security. Gate systems are comprised of many component parts. The gate operator is only one component. Each gate system is specifically designed for an individual application.
2. Gate operating system designers, installers and users must take into account the possible hazards associated with each individual application. Improperly designed, installed or maintained systems can create risks for the user as well as the bystander. Gate systems design and installation must reduce public exposure to potential hazards.
3. A gate operator can create high levels of force in its function as a component part of a gate system. Therefore, safety features must be incorporated into every design. Specific safety features include:
  - Gate Edges
  - Guards for Exposed Rollers
  - Photoelectric Sensors
  - Screen Mesh
  - Vertical Posts
  - Instructional and Precautionary Signage
4. Install the gate operator only when:
  - a. The operator is appropriate for the construction and the usage class of the gate.
  - b. All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4' (1.2 m) above the ground to prevent a 2 1/4" (6 cm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position.
  - c. All exposed pinch points are eliminated or guarded, and guarding is supplied for exposed rollers.
5. The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.
6. The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.
7. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
8. Controls intended for user activation must be located at least six feet (6') away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.
9. The Stop and/or Reset (if provided separately) must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.
10. A minimum of two (2) WARNING SIGNS shall be installed, one on each side of the gate where easily visible.
11. For a gate operator utilizing a non-contact sensor:
  - a. Reference owner's manual regarding placement of non-contact sensor for each type of application.
  - b. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving.
  - c. One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.
12. For a gate operator utilizing a contact sensor such as an edge sensor:
  - a. One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge and post mounted both inside and outside of a vehicular horizontal slide gate.
  - b. One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
  - c. A hard wired contact sensor shall be located and its wiring arranged so the communication between the sensor and the gate operator is not subject to mechanical damage.
  - d. A wireless contact sensor such as the one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.
  - e. One or more contact sensors shall be located on the inside and outside leading edge of a swing gate. Additionally, if the bottom edge of a swing gate is greater than 6" (152 mm) above the ground at any point in its arc of travel, one or more contact sensors shall be located on the bottom edge.
  - f. One or more contact sensors shall be located at the bottom edge of a vertical barrier (arm).



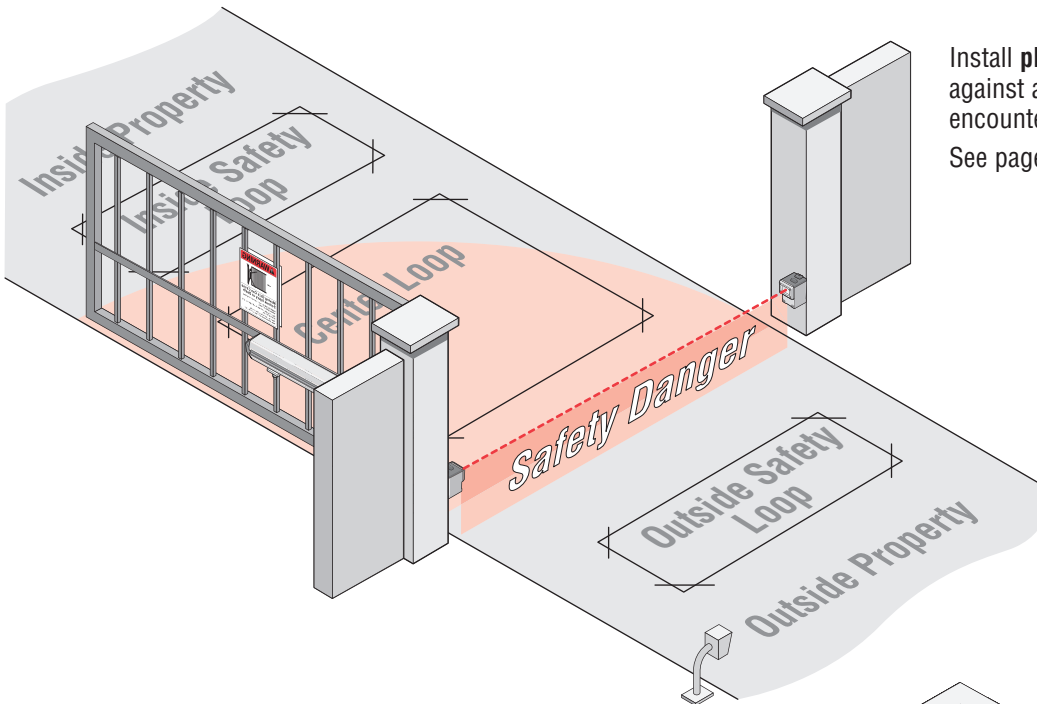
# SUGGESTED ENTRAPMENT PROTECTION DEVICE LOCATIONS

## WARNING

To prevent SERIOUS INJURY or DEATH from a moving gate:

- Entrapment protection devices **MUST** be installed to protect anyone who may come near a moving gate.
- Locate entrapment protection devices to protect in **BOTH** the open and close gate cycles.
- Locate entrapment protection devices to protect between moving gate and **RIGID** objects, such as posts or walls.
- A swinging gate shall **NOT** open into public access ways.

### ***Non-Contact Sensors (Photo Electric Sensors)***



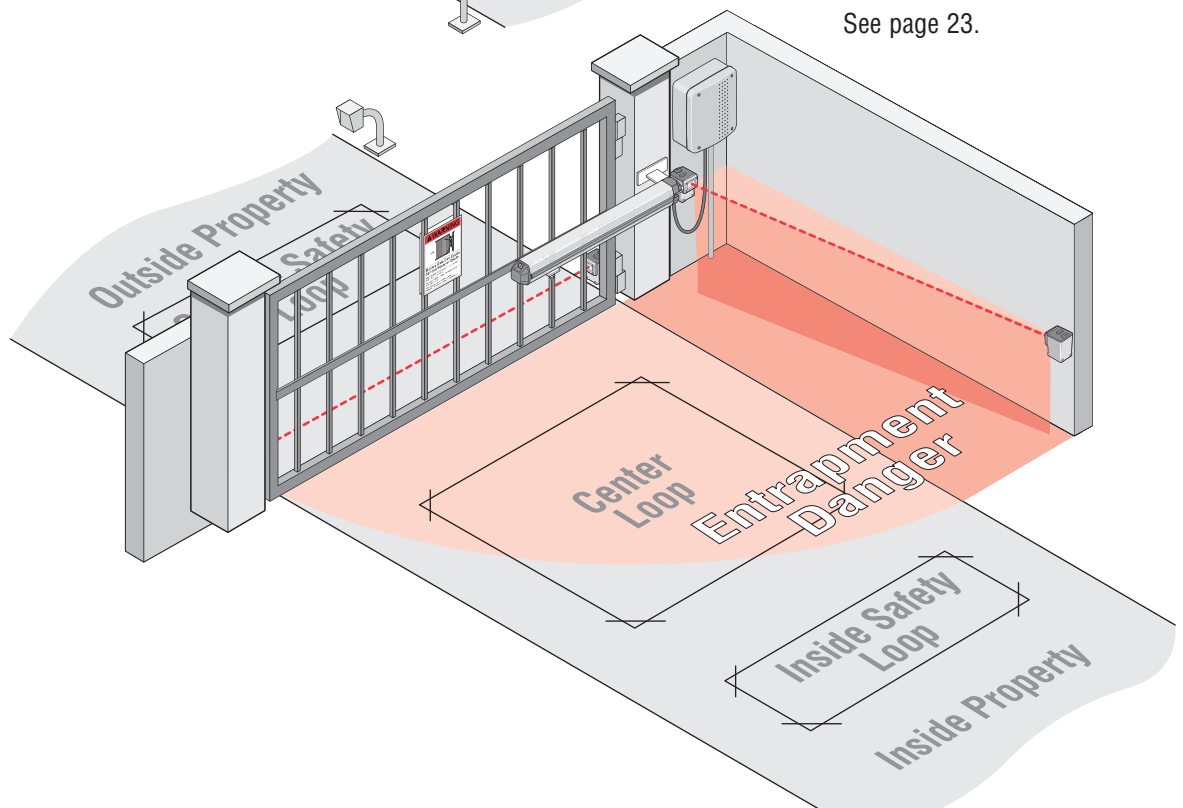
Install **photo electric sensors** to protect against any entrapment or safety conditions encountered in your gate application.

See page 24.

**Safety loops** allows the gate to stay open when vehicles are obstructing the gate path. Suggested for vehicles 14 feet or longer. If a vehicle is shorter, a center loop is recommended and should be installed.

A **center loop** protects during a **Close** cycle of the gate. Safety loops are required when using a center loop.

See page 23.





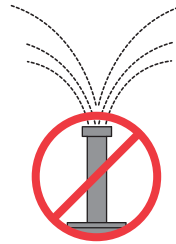
## SAFETY PRECAUTIONS

**The Miracle-One™ is for use on Vehicular Passage Gates ONLY  
and NOT INTENDED for use on Pedestrian Passage Gates.**

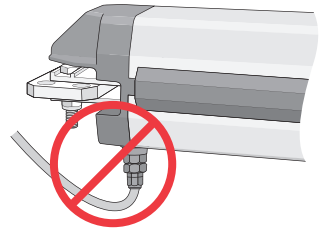
### **WARNING**

To prevent SERIOUS INJURY or DEATH from a moving gate:

- Entrapment protection devices **MUST** be installed to protect anyone who may come near a moving gate.
- Locate entrapment protection devices to protect in **BOTH** the open and close gate cycles.
- Locate entrapment protection devices to protect between moving gate and **RIGID** objects, such as posts.
- A swinging gate shall **NOT** open into public access ways.



*DO NOT install next to sprinklers or any area that may expose bottom of operator to water.*



*DO NOT over-bend the cord from the operator. Doing this will cause the wires to eventually break.*



*DO NOT install upside down.*



*DO NOT install on a few pickets, they will bend. Weld a reinforcement bar across entire gate.*



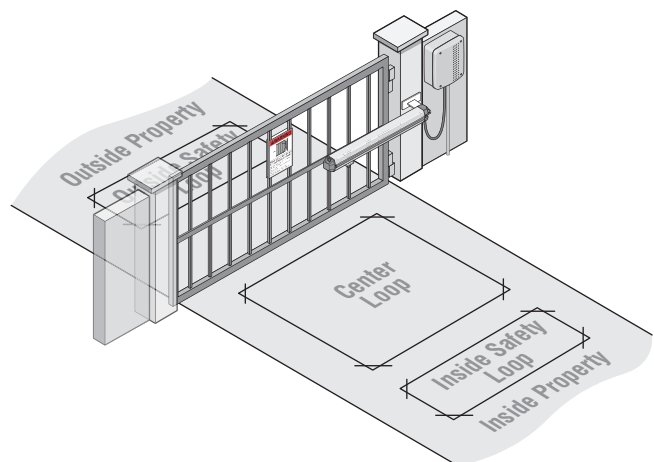
*DO NOT install on ANY pedestrian passageways or doorways.*



*DO NOT install on ANY pedestrian gates.*



*DO NOT install on uphill or downhill gates.*

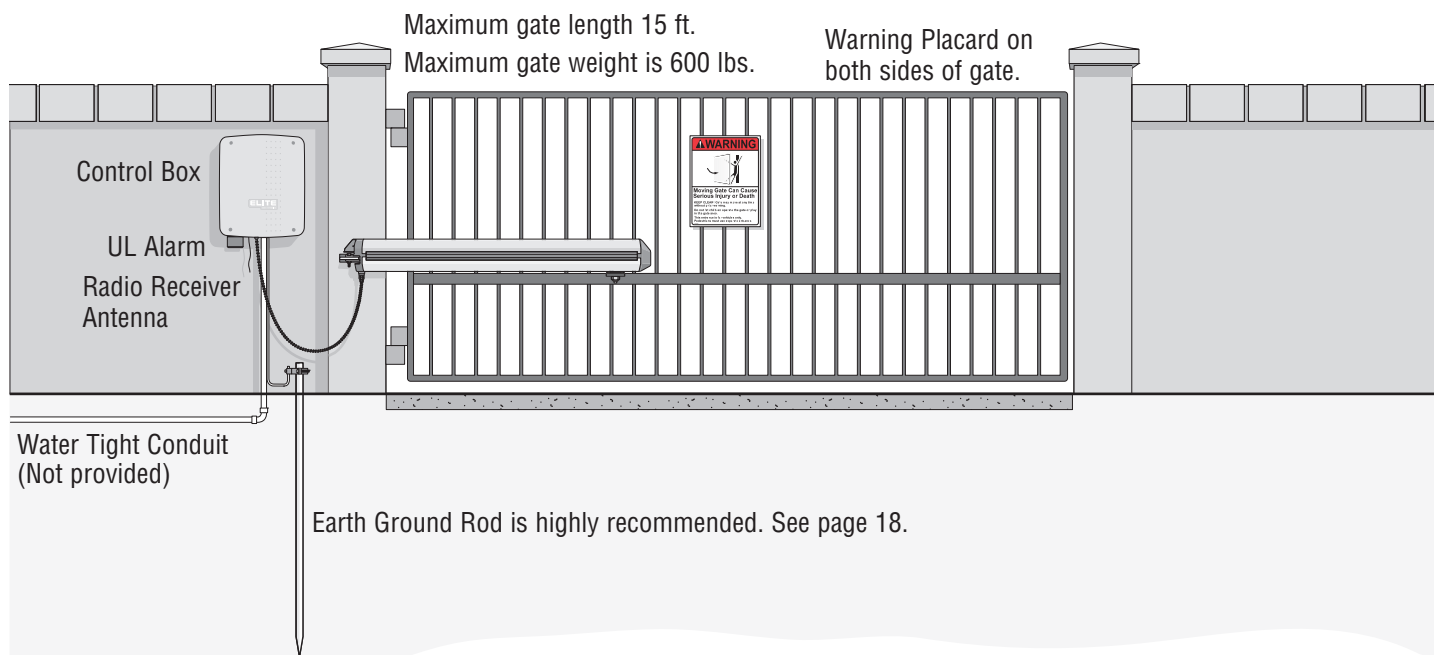


*If the "Timer" is to be left in the "ON" position, then add safety loops and a center loop.*

# Installation

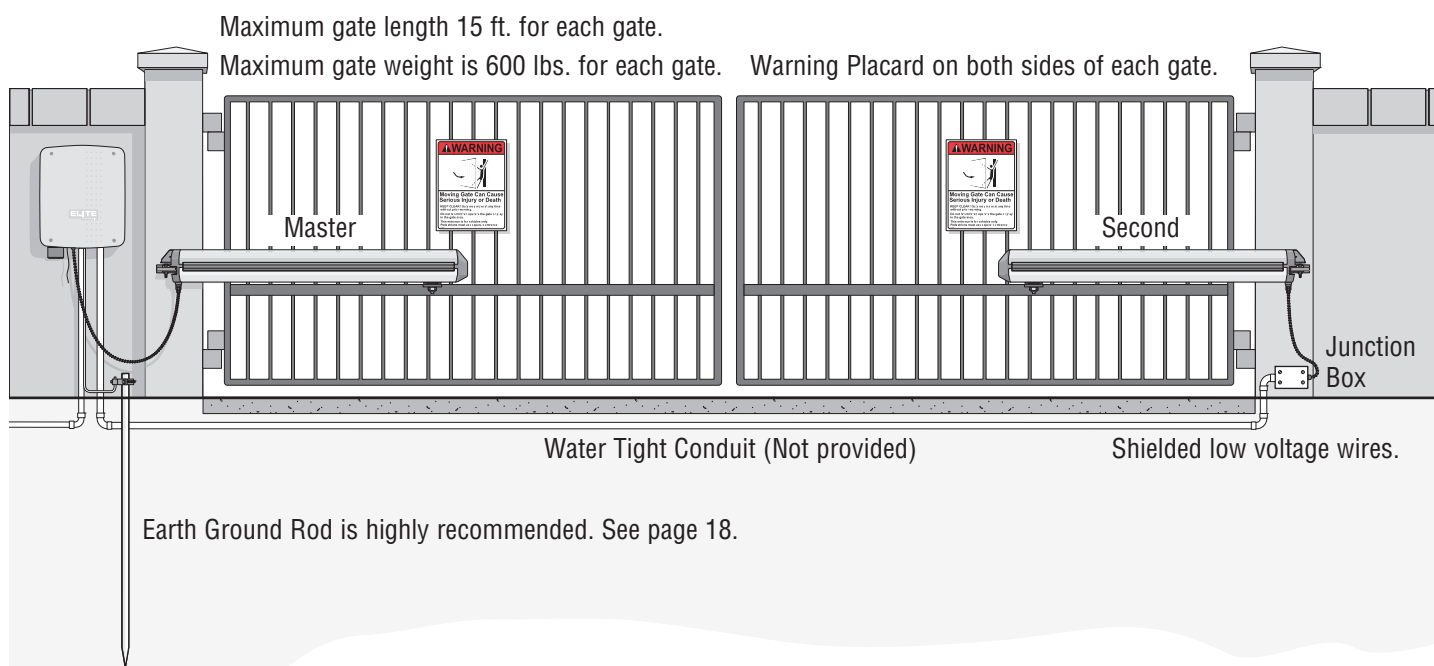
## INSTALLATION SETUPS

### Single Operator



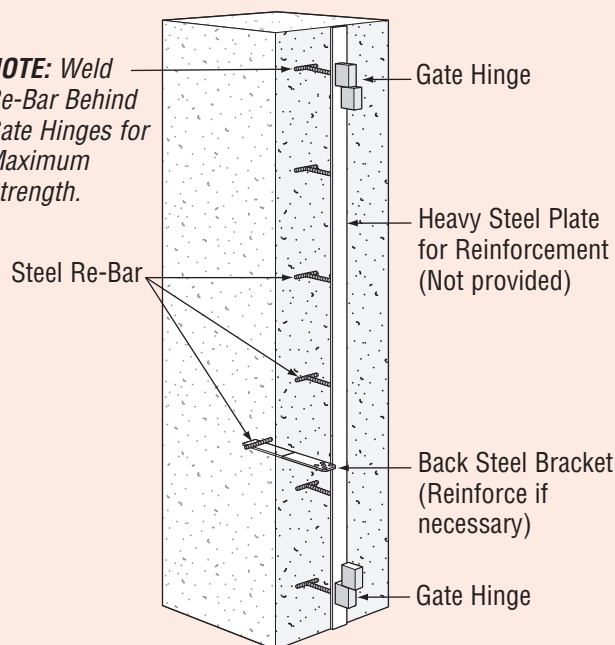
**NOTE:** Weld a horizontal bar across entire gate on any installation for strength.

### Master/Second Operators

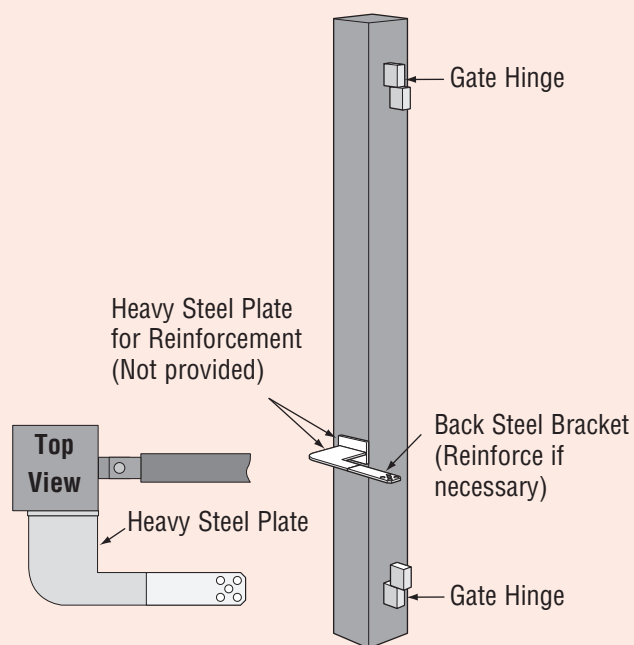


# MOUNTING OPERATOR THAT OPENS TO THE OUTSIDE

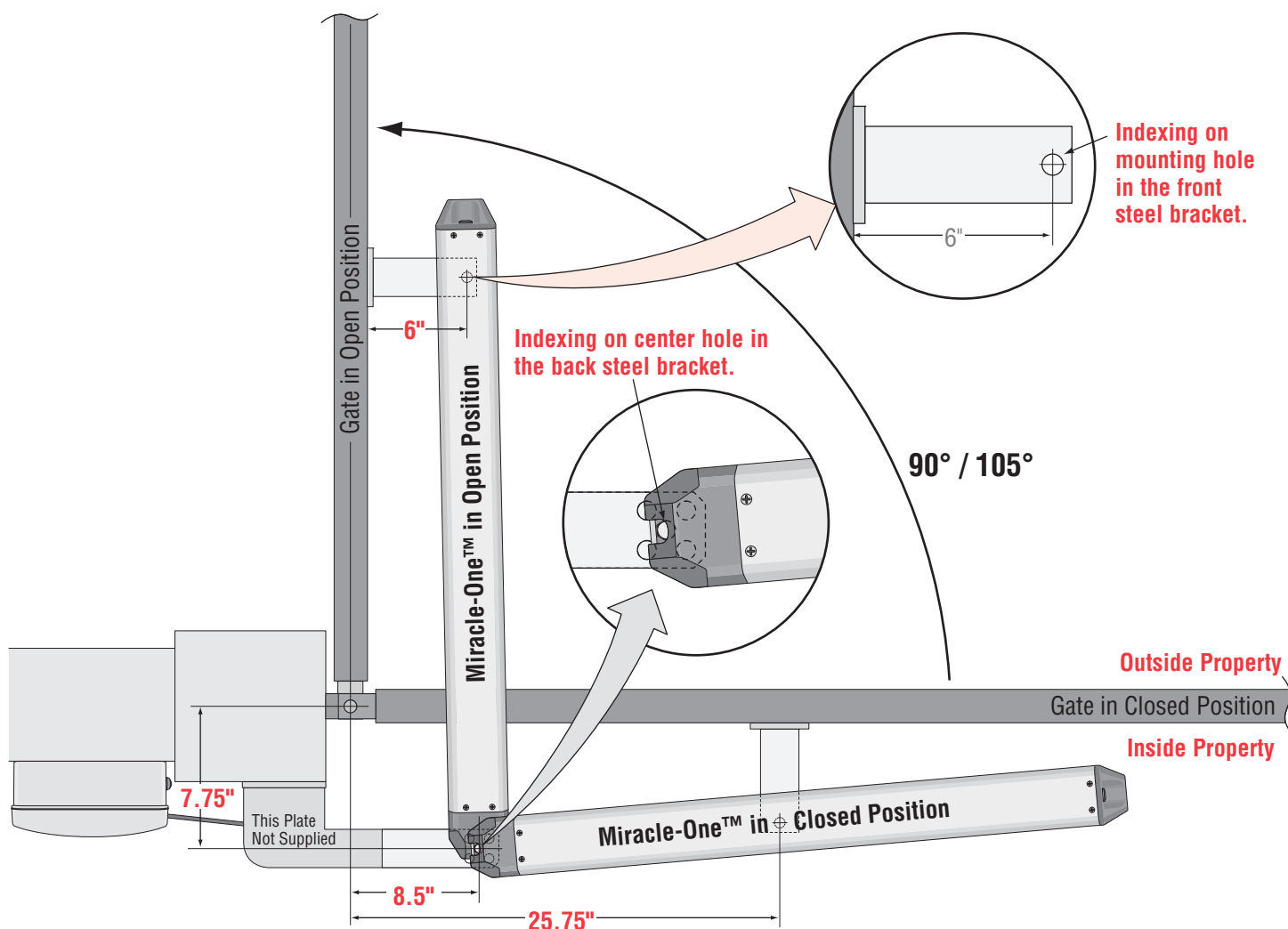
**NOTE:** Weld Re-Bar Behind Gate Hinges for Maximum Strength.



**Typical Masonry Column Setup**

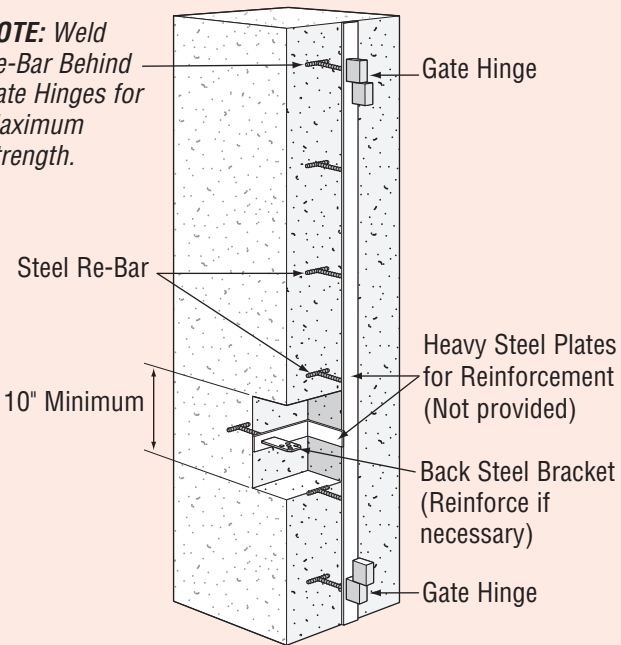


**Typical Steel Post Setup**

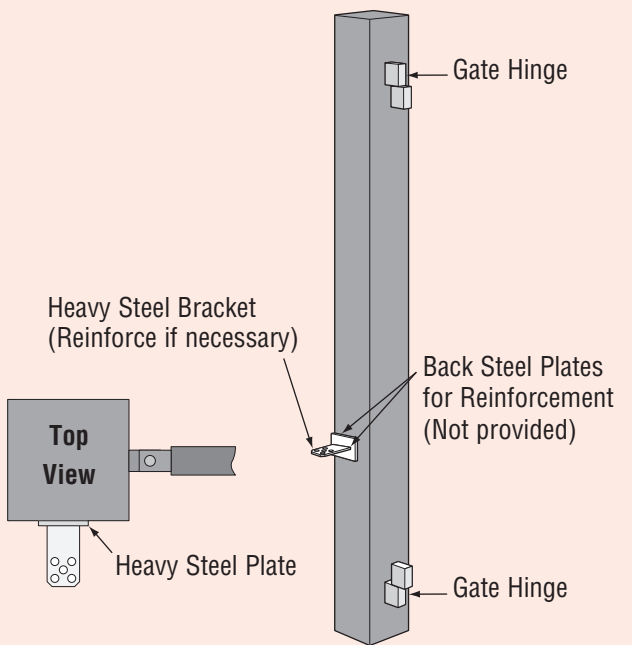


## MOUNTING OPERATOR THAT OPENS TO THE INSIDE

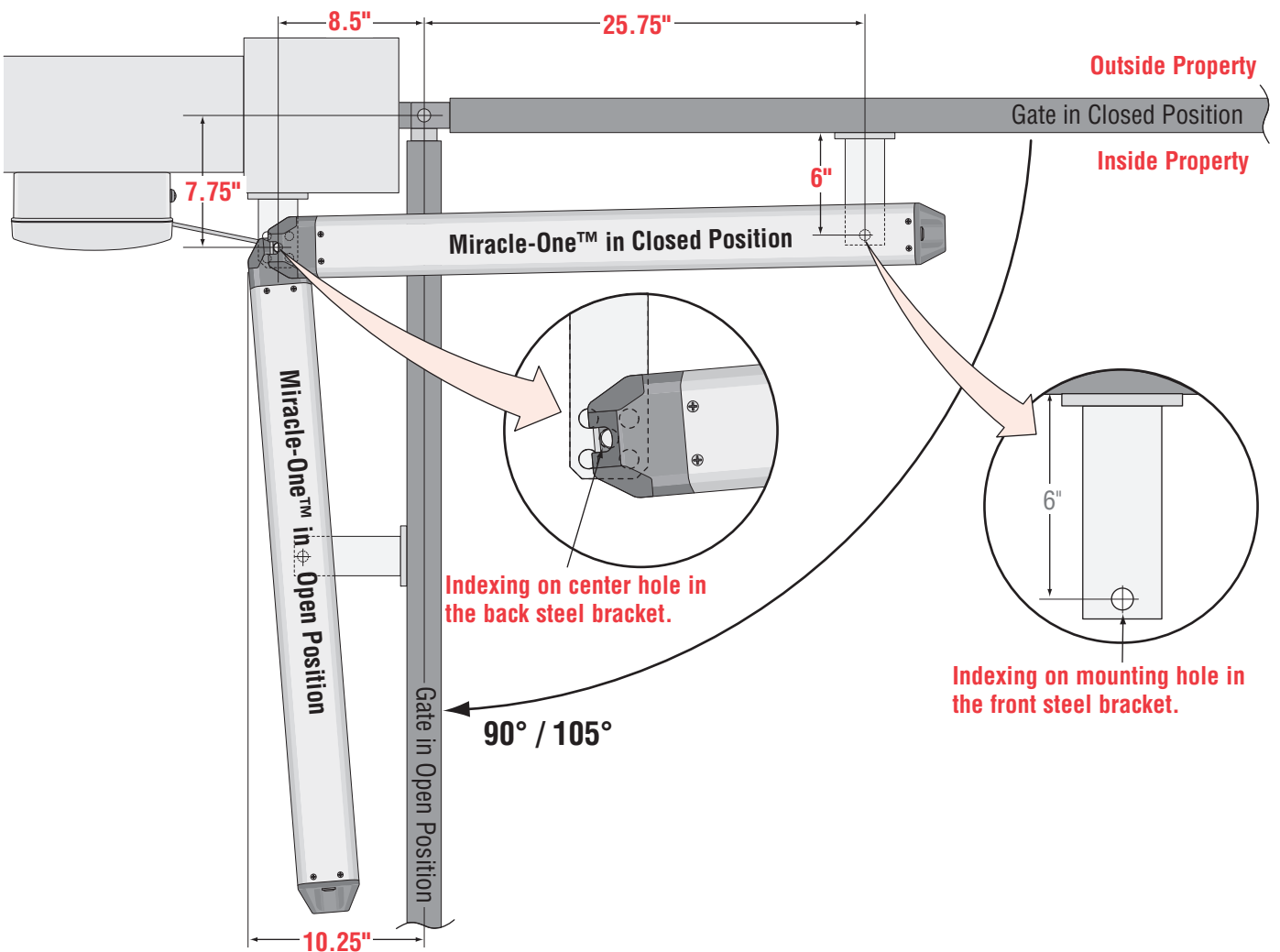
**NOTE:** Weld Re-Bar Behind Gate Hinges for Maximum Strength.



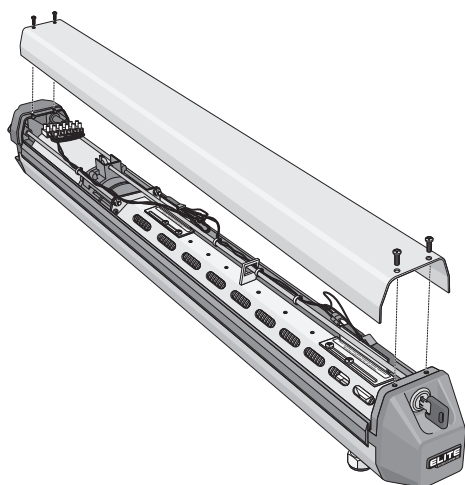
## Typical Masonry Column Setup



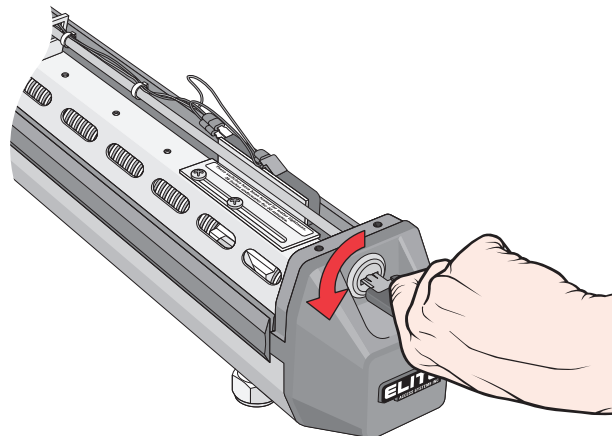
## Typical Steel Post Setup



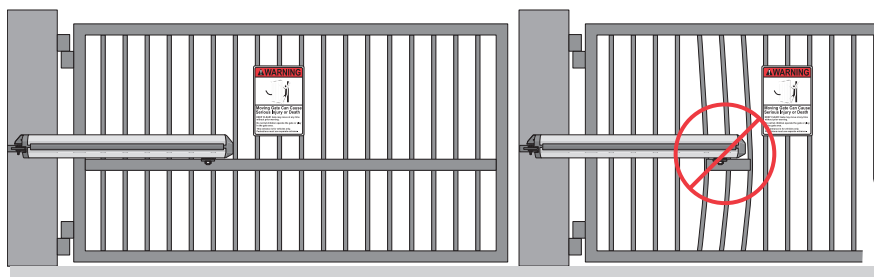
# MOUNTING OPERATOR



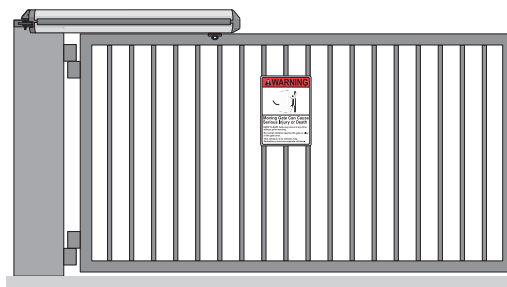
Unscrew 4 screws on top of operator to remove cover.



Release the mechanical lock by turning the key to the horizontal position.

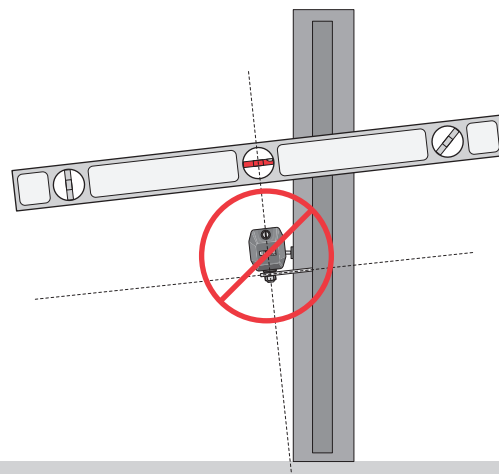
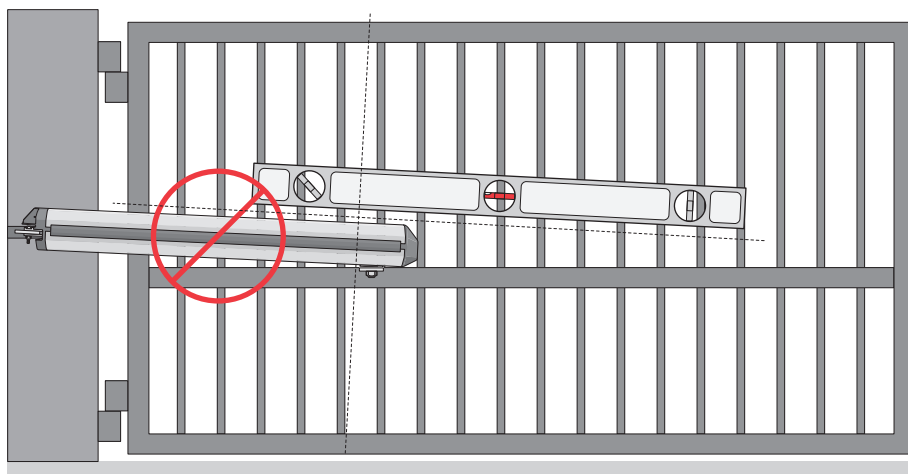


If using a gate crossbar, weld bar across all pickets. **Do not** weld the crossbar on just a few pickets, or they could bend.



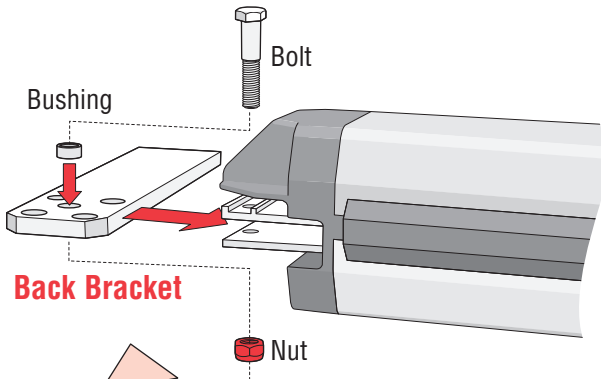
The Miracle-One™ can be mounted on top of the gate frame.

**NOTE:** See page 7 for mounting limitations.

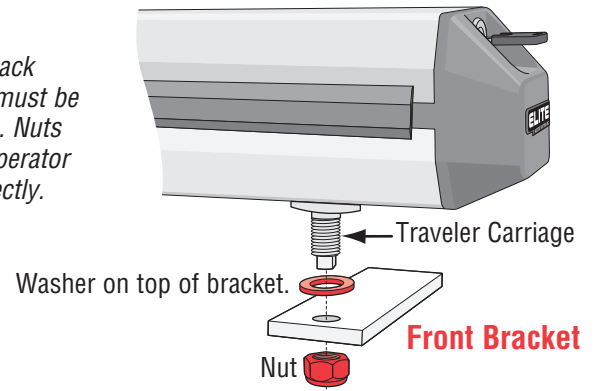


Make sure that the operator is mounted **level** or it will not function properly. An off-level installation may cause the gate or operator to fail prematurely.

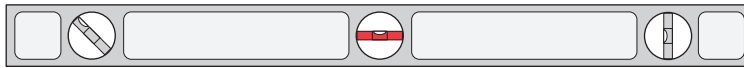
# MOUNTING OPERATOR (CONTINUED)



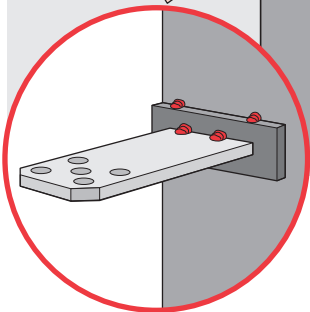
**NOTE:** Front and back bracket hardware must be installed as shown. Nuts must be tight or operator will not work correctly.



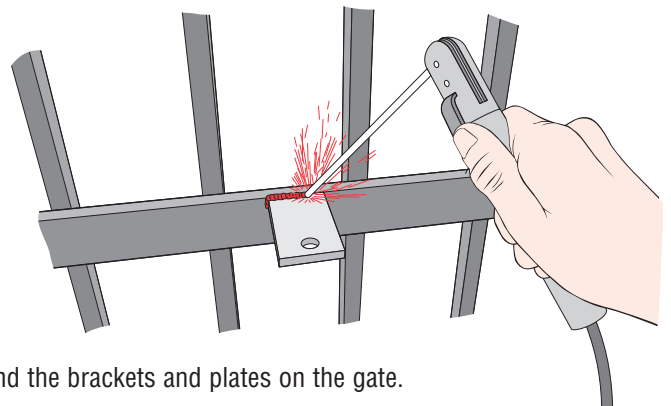
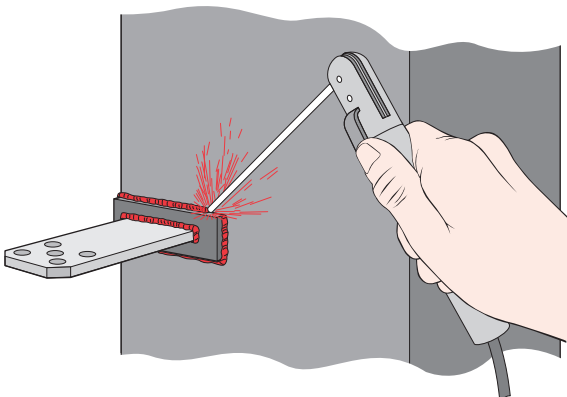
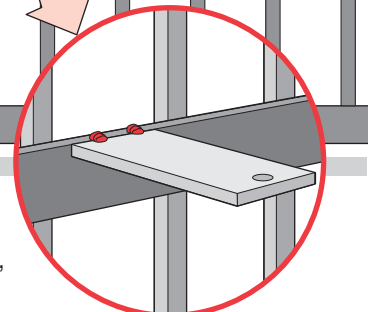
Position the Miracle-One™ horizontally level on the closed gate, where desired. For strength purposes, the front steel bracket must be attached in an area that can withstand heavy forces. Additional reinforcement steel plates may be necessary for mounting.



2.25" vertical height between front and back brackets.

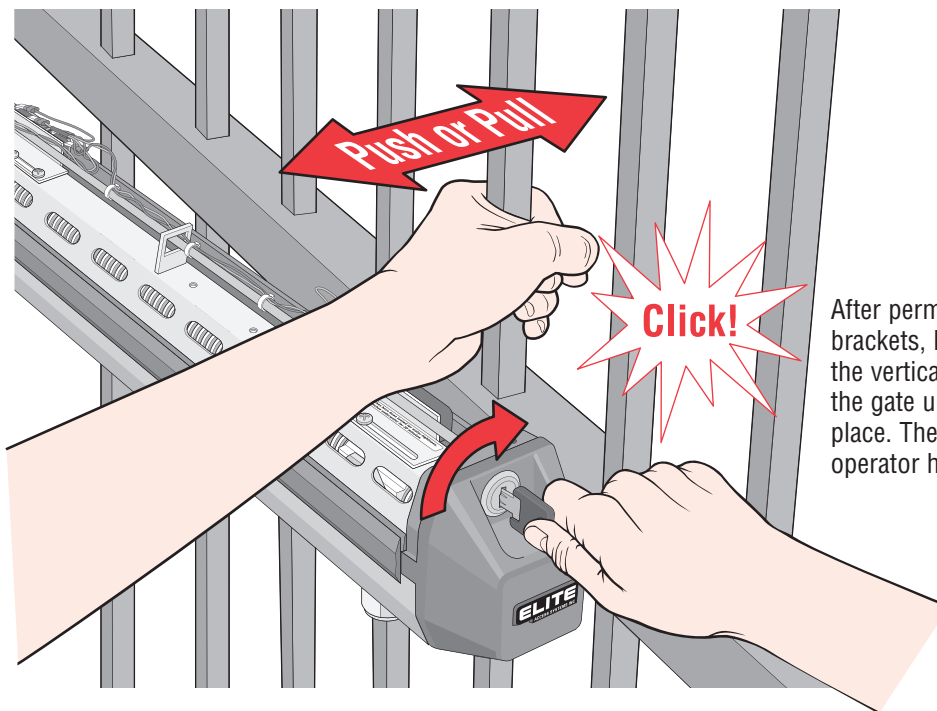


The gate must be in the closed position. Make sure the operator is kept level while *tack welding* the front and back brackets and reinforcement steel plates in position. After all tack welding is finished, **remove the operator to avoid damaging it!**



**With the operator removed, completely weld around the brackets and plates on the gate.**

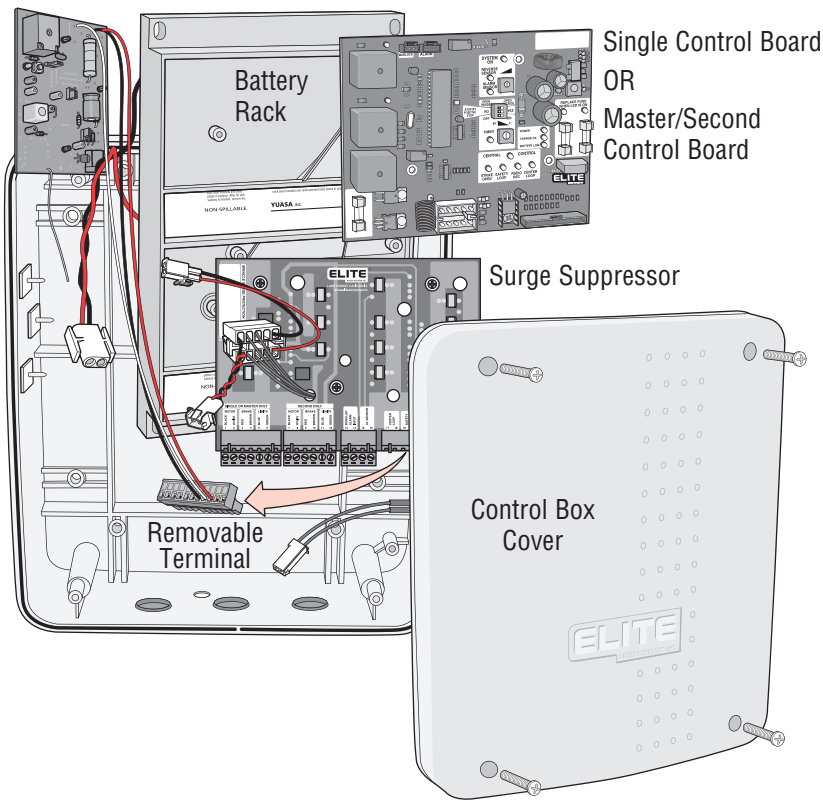
## MOUNTING OPERATOR (CONTINUED)



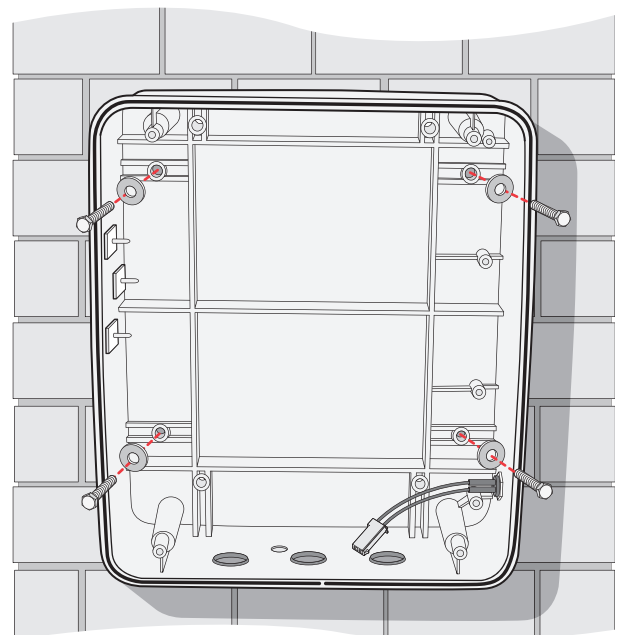
After permanently mounting operator back on brackets, lock the operator by turning the key to the vertical position while pushing or pulling on the gate until you hear the key release click into place. The gate should not move after the operator has been locked.

## MOUNTING CONTROL BOX

### Radio Receiver Board



Remove control box cover, control board, surge suppressor, radio receiver board and battery rack from control box. The 3 radio receiver wires can be unplugged from the surge suppressor using the removable terminal connector.



Use the four mounting holes provided with four screws and washers (recommend #10 thru 1/4-20 Bolts or Screws) Do Not enlarge existing holes, drill new holes or over tighten mounting screws.

*Continued on next page.*



## CONNECTING OPERATOR(S) TO CONTROL BOX

**NOTE:** Reinstall all components back into control box when finished connecting operator(s) to control box. See previous page.

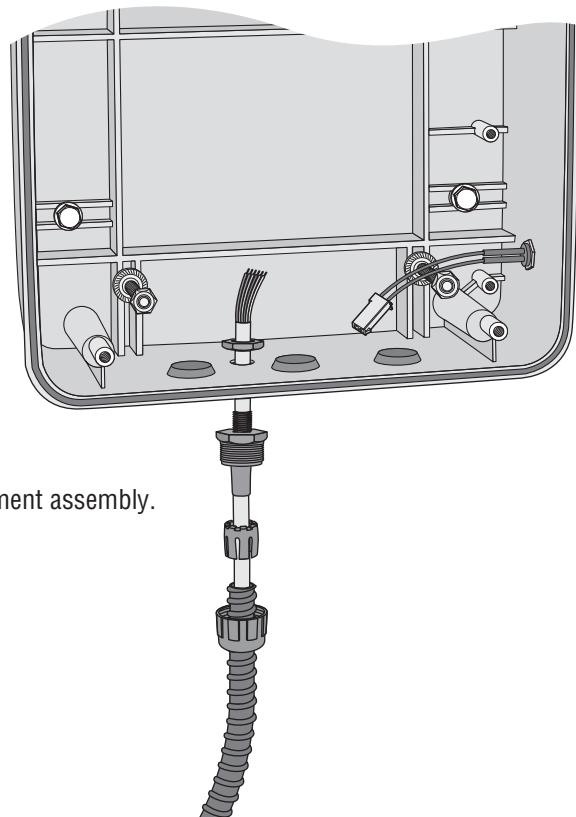
### Single Operator



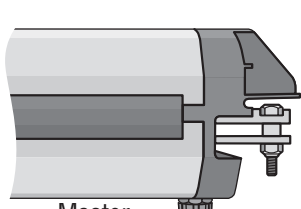
#### CAUTION

To AVOID damaging operator: DO NOT over-bend the cord from the operator. Doing this will cause the wires to eventually break.

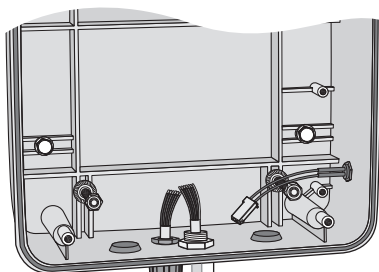
Flexible conduit's attachment assembly.



### Master/Second Operators

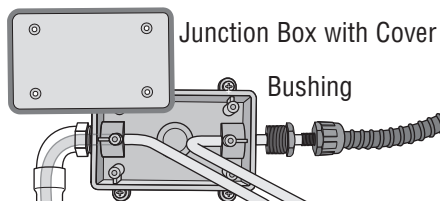


Master



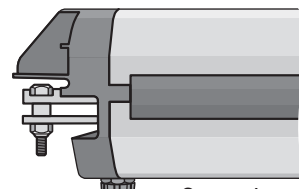
Flexible Conduit  
(See Above)

Water Tight Conduit  
(Not provided)



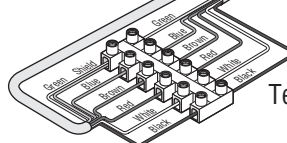
Junction Box with Cover

Bushing



Second

Flexible Conduit  
(See Above)

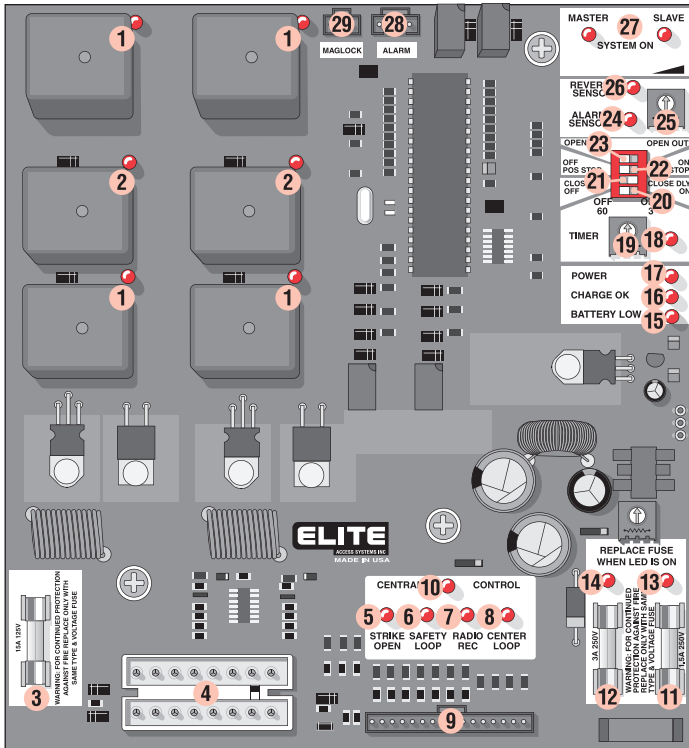


Terminal Connector

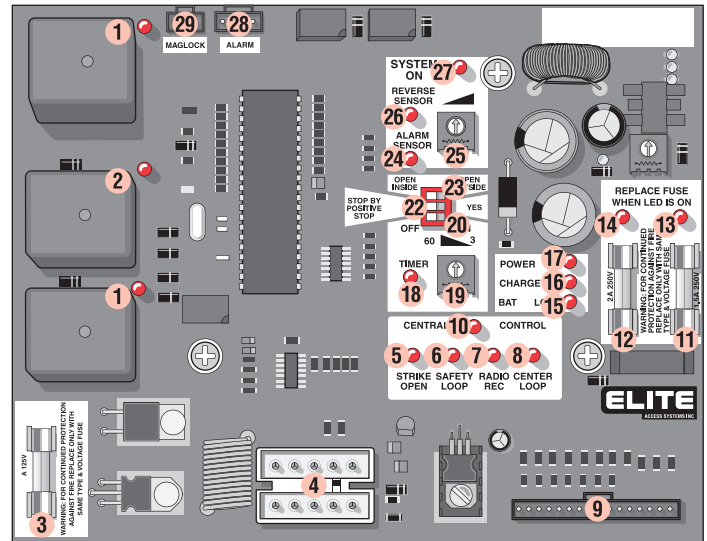
Shielded Low Voltage Cable

# CONTROL BOARDS DESCRIPTIONS

## Master/Second



## Single



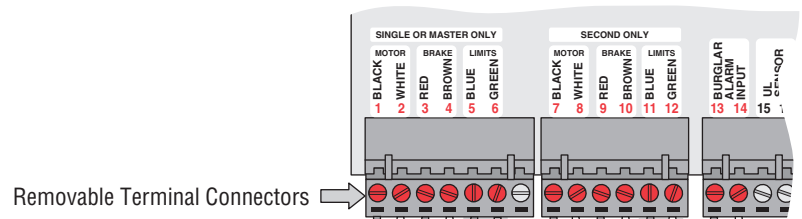
## CAUTION

To AVOID damaging the control board, replace fuses ONLY with same type and rating specified below.

1. Open or Close Relay LED
2. Control Relay LED
3. Motor Fuse (8 Amp Single) (15 Amp Master/Second)
4. J1 Battery, Surge Suppressor and Reset Button Connection
5. Strike Open LED
6. Safety Loop LED
7. Radio Receiver LED
8. Center Loop LED
9. J3 Surge Suppressor Connection
10. Central Control LED
11. Charging Power Fuse 1.5 Amp
12. Board Fuse (2 Amp Single) (3 Amp Master/Second)
13. Replace Charging Power Fuse LED
14. Replace Board Fuse LED
15. Batteries Low LED

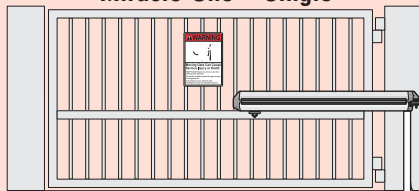
16. Charge OK LED
17. Power LED
18. Timer Active LED
19. Timer Adjustment (3 to 60 sec.) See page 26.
20. Switch - Timer, Off / On. See page 26.
21. Close Delay Overlapping Gate, Off / On, Master/Second Only. See page 30.
22. Stop by Positive Stop Option Switch, No / Yes. See page 28.
23. Switch - Open Inside / Open Outside. See page 26.
24. Alarm Sensor LED
25. Reverse Sensor Adjustment. See page 28.
26. Reverse Sensor LED
27. System On LED
28. J4 Burglar Alarm & UL Audio Alarm Output Connector. See page 21.
29. J2 Maglock/Solenoid Connector. See page 25.

# SURGE SUPPRESSOR CONNECTIONS

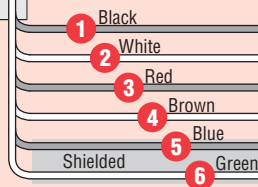


Refer to Page 19

## Miracle-One™ Single



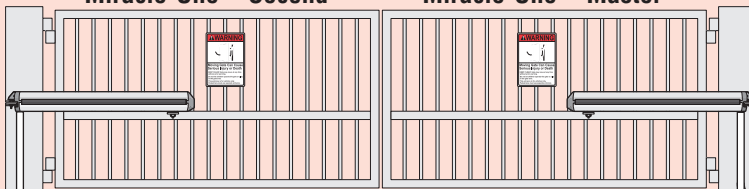
**NOTE:** You **MUST** use **Shielded Wire** for the **blue** and **green** lines. **Shield** must be **grounded**.



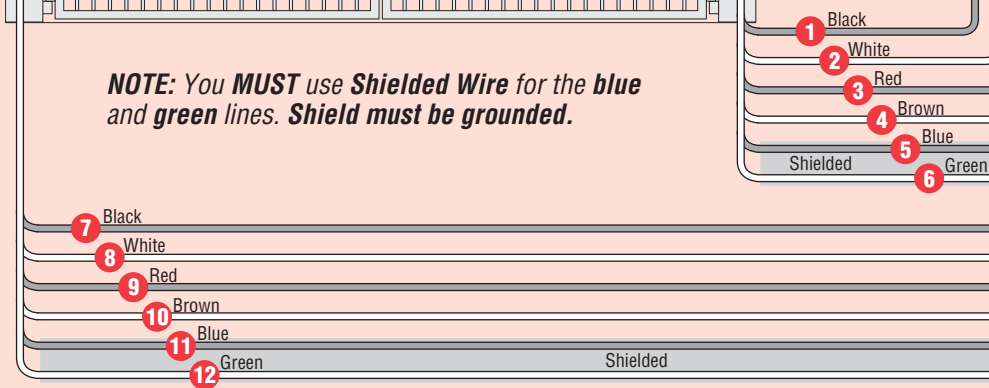
Refer to Page 19

## Miracle-One™ Second

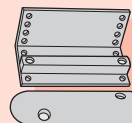
## Miracle-One™ Master



**NOTE:** You **MUST** use **Shielded Wire** for the **blue** and **green** lines. **Shield** must be **grounded**.



Refer to Page 21



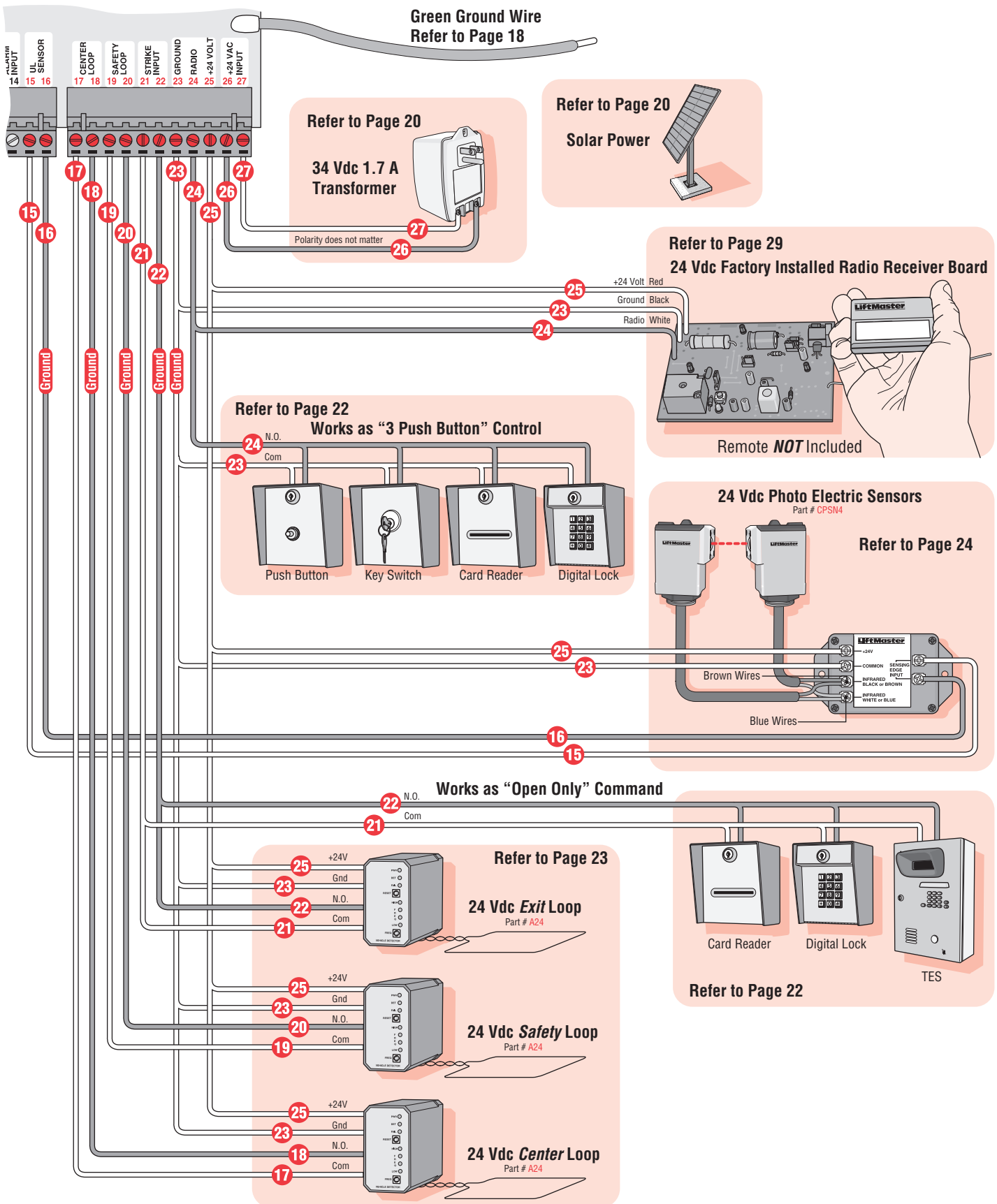
## Proximity Switch

Normally Open  
Part # APRS

N.O.

Com

## SURGE SUPPRESSOR CONNECTIONS



# Wiring

## WARNING

To reduce the risk of SEVERE INJURY or DEATH:

- ANY maintenance to the operator or in the area near the operator **MUST NOT** be performed until disconnecting the electrical power and locking-out the power via the operator power switch. Upon completion of maintenance the area **MUST** be cleared and secured, at that time the unit may be returned to service.
- Disconnect battery and 34 Vdc transformer or solar panel **BEFORE** proceeding. Operator **MUST** be properly grounded and connected in accordance with local electrical codes.  
**NOTE:** The operator should be on a separate fused line of adequate capacity.
- ALL electrical connections **MUST** be made by a qualified individual.
- DO NOT install ANY wiring or attempt to run the operator without consulting the wiring diagram. We recommend that you install an optional reversing edge **BEFORE** proceeding with the control station installation.
- ALL power wiring should be on a dedicated circuit and well protected. The location of the power disconnect should be visible and clearly labeled.
- ALL power and control wiring **MUST** be run in separate conduit.
- **BEFORE** installing power wiring or control stations be sure to follow ALL specifications and warnings described below. Failure to do so may result in SEVERE INJURY to persons and/or damage to operator.

All power wiring should be on a dedicated circuit and well protected.

**NOTE:** Calculated using NEC guidelines. Local codes and conditions must be reviewed for suitability of wire installation.

## CAUTION

To **AVOID** damaging 34 Vdc plug-in transformer, it **MUST** be enclosed in a suitable weatherproof enclosure and provided with proper weatherproof fixtures.

## WARNING

To prevent **SERIOUS INJURY** or **DEATH** from a moving gate: **DO NOT** disconnect the audio alarm or reset button.

Use 14 gauge / 300 watt direct burial, landscape lighting wire NOT to exceed 500 ft., use 10 gauge wire up to 1000 ft. for transformer.

## EARTH GROUND ROD INSTALLATION

Proper grounding gives an electrical charge, such as from an electrical static discharge or a near lightning strike, a path from which to dissipate its energy safely into the earth.

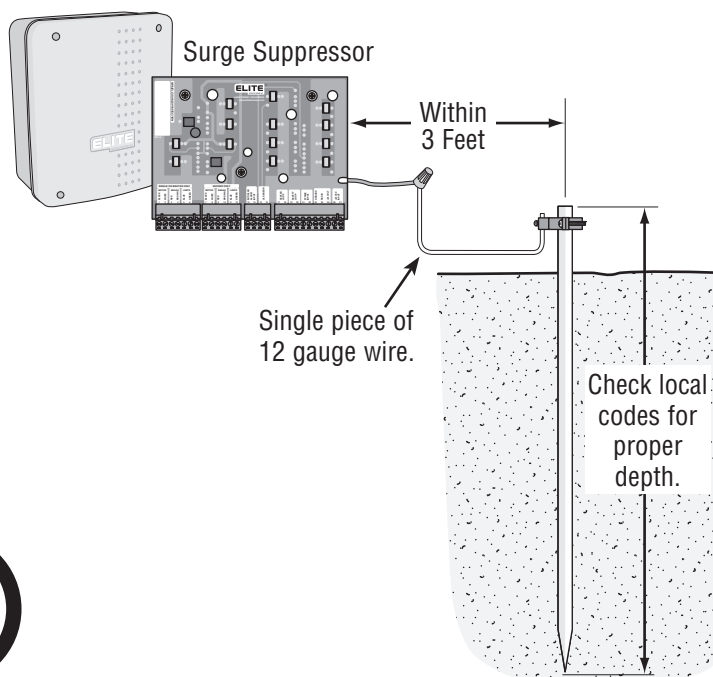
Without this path, the intense energy generated by lightning could be directed towards the gate operator. Although nothing can absorb the tremendous power of a direct lightning strike, proper grounding can protect the gate operator in most cases.

The earth ground rod must be located within 3 feet from the gate operator. Use the proper type earth ground rod for your local area.

The ground wire must be a single, whole piece of wire. Never splice two wires for the ground wire. If you should cut the ground wire too short, break it, or destroy its integrity, replace it with a single wire length.

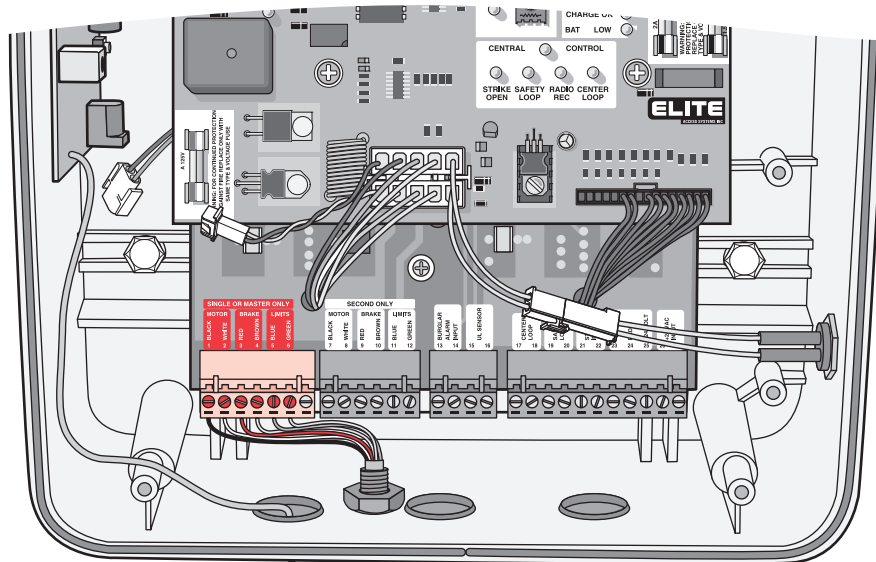
## CAUTION

To **AVOID** damaging gas, power or other underground utility lines, contact underground utility locating companies **BEFORE** digging.



# WIRING OPERATOR(S) TO CONTROL BOARD

## Single Controller



### **WARNING**

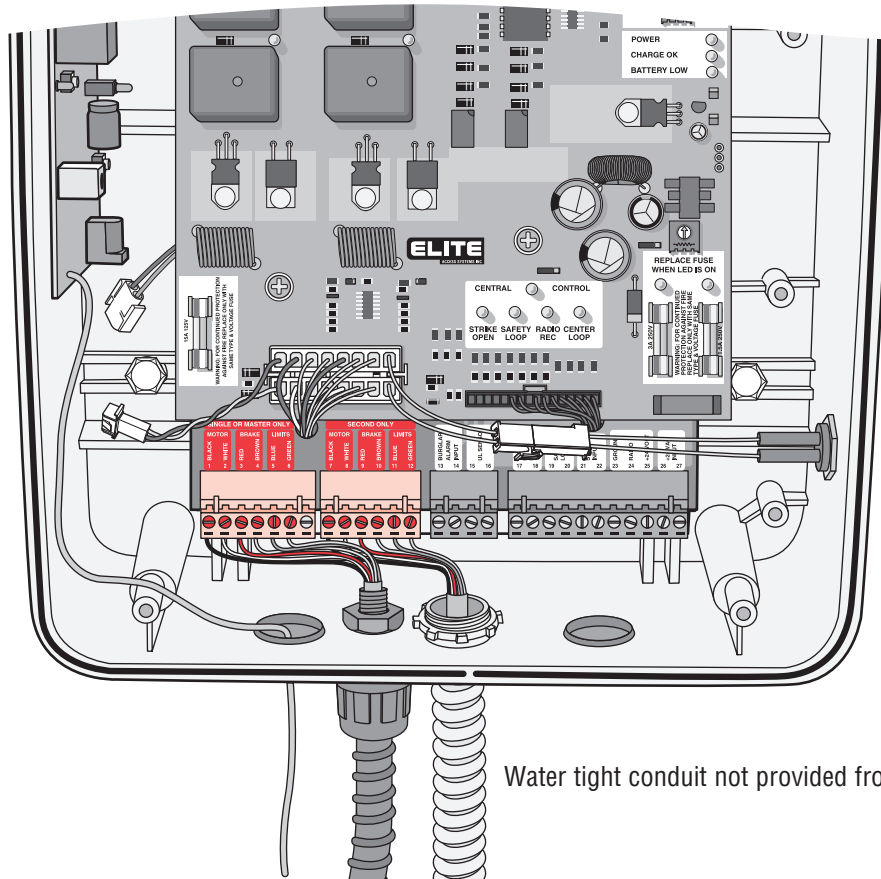
To prevent **SERIOUS INJURY** or **DEATH** from a moving gate:  
DO NOT connect the battery at this time.

### **CAUTION**

To **ENSURE** proper operation of external devices:

- **ENSURE** bare wires make good contact inside removable terminal connections.
- **DO NOT** let wire insulation interfere with connection.

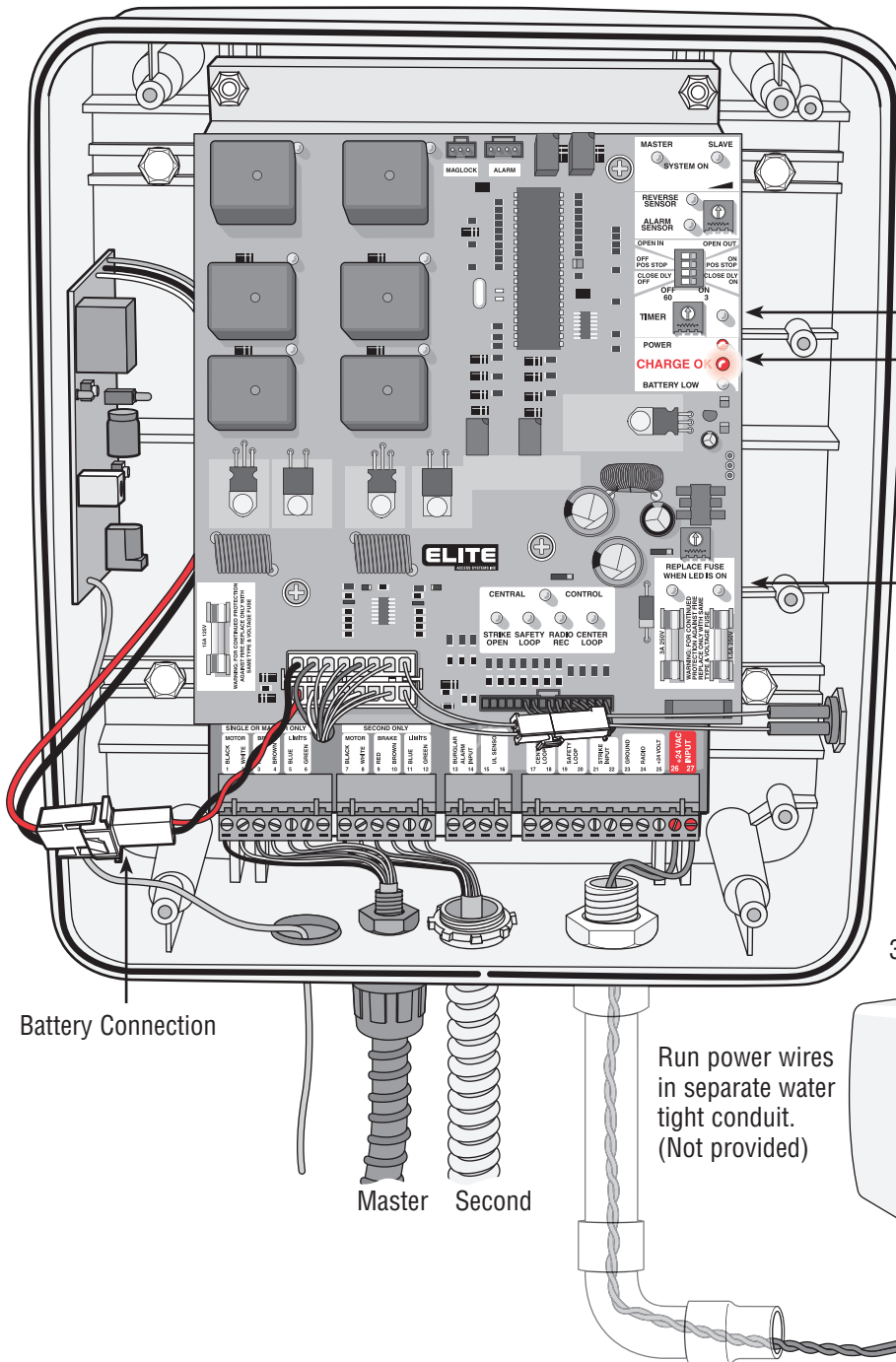
## Master/Second Controller



Water tight conduit not provided from the second operator.



## DC POWER CONNECTION



**NOTE:** Master/second control board shown to demonstrate proper conduit arrangement. The same connection sequence applies to the single control board.

Plug in the transformer and connect the battery plug into the surge suppressor J1 battery plug. The "Timer" LED will flash "3 times".

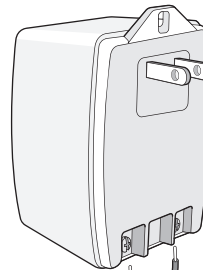
After that, check the "Charge OK" LED..... it must be "ON".

If the board or charging LEDs are lit, replace the fuses ONLY with type and sizes specified. See page 35.

**Earth Ground Rod  
Highly Recommended!**

See page 18

34 Vdc 1.7 A Plug-in Transformer



Input power to transformer,  
120 Vac, 60 Hz.

Polarity does NOT matter.

Use 14 gauge / 300 watt direct burial, landscape lighting wire NOT to exceed 500 ft. Use 10 gauge wire up to 1000 ft. (Not provided)

Battery Connection

Run power wires in separate water tight conduit.  
(Not provided)

Master Second

## CAUTION

To AVOID damaging 34 Vdc plug-in transformer, it MUST be enclosed in a suitable weatherproof enclosure and provided with proper weatherproof fixtures.

To AVOID damaging control board, DO NOT use the solar panel and the plug-in transformer at the same time.



## UL ALARM CONNECTION

This UL alarm is required for UL-325. It will go off after **2 consecutive events** on the reverse sensor or UL sensor occur.

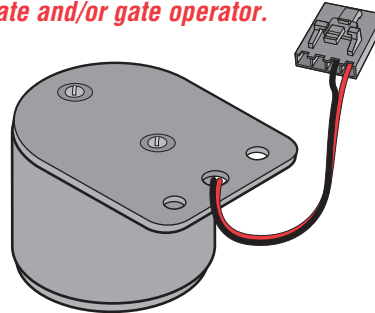
The UL alarm will sound for a period of **5 minutes** unless the Stop/Reset button is pressed or a new command is received by the Strike Input Connection. The reset button will **shut off** an activated audio alarm and reset the operator to function again. See page 32.



Mount alarm on bottom of control box to protect it from the weather.

*If the audio alarm goes off, always check the gate area for:*

- *Obstructions in the gate path.*
- *Damage to the gate and/or gate operator.*



Connect the alarm plug to the J4 "Alarm" connection on the control board. See page 15.

## BURGLAR ALARM CONNECTIONS

### House Alarm

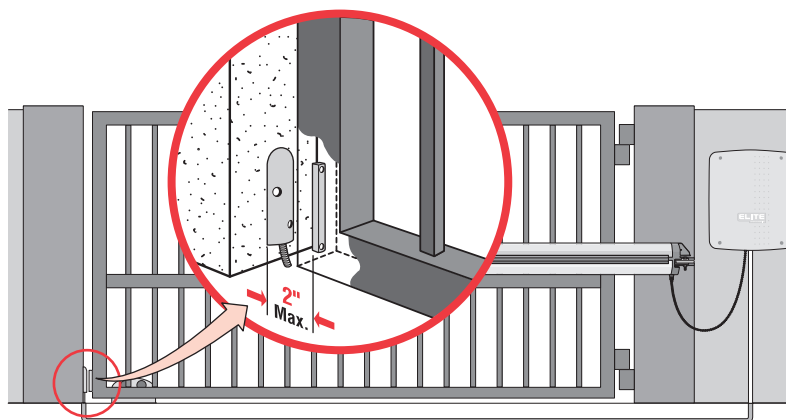
The control board provides a relay with a normally open contact to interface with a house alarm.



Connect the alarm plug to the J4 "Alarm" connection on the control board. See page 15.

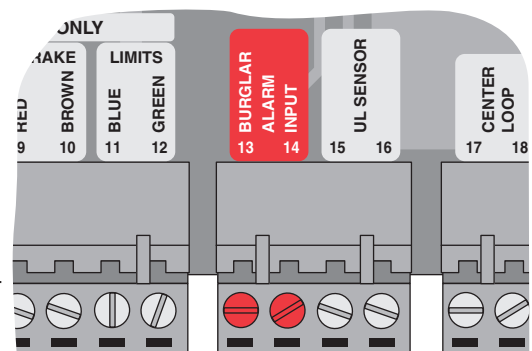
**Control Board Relay Contact Rating**  
0.5 Amp - 125 Vac  
1 Amp - 24 Vdc

When interfacing with a house burglar alarm you must install **positive stops** at the gate closed position. See page 28.

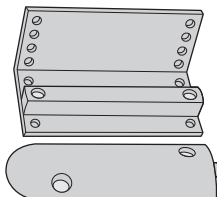


### Proximity Switch

(Normally Open) If the gate is forced open without a valid command, the proximity switch will be activated, causing the **house alarm** to activate.

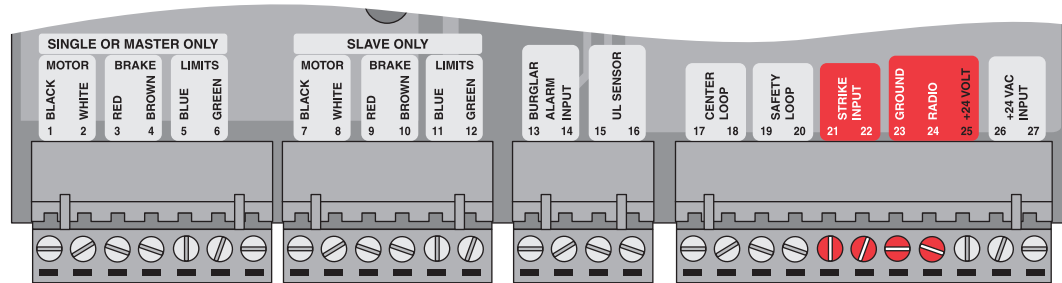


Surge Suppressor



Part # **APRS**

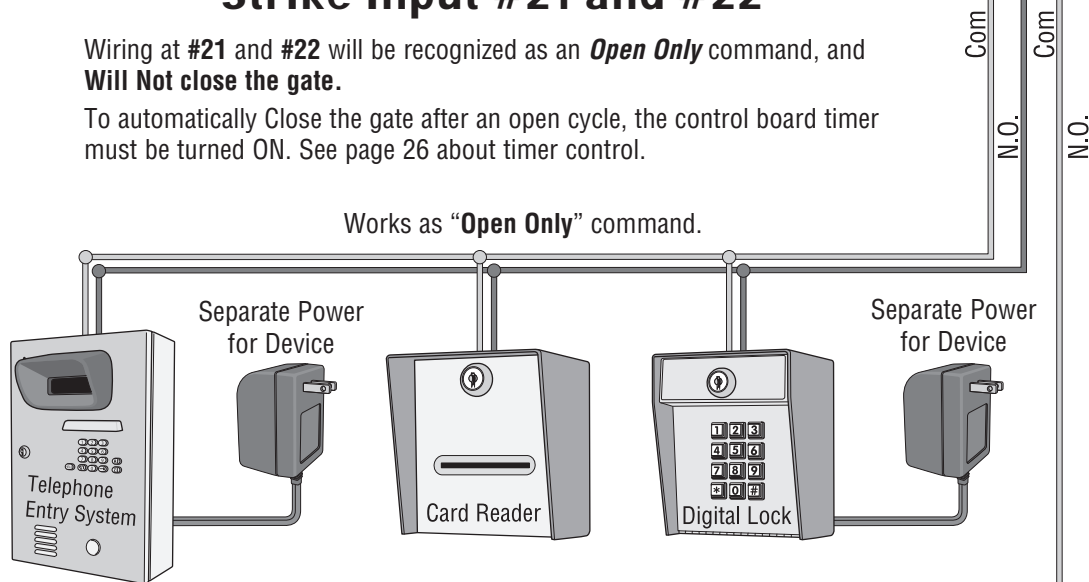
# WIRING ADDITIONAL INPUTS



## Strike Input #21 and #22

Wiring at #21 and #22 will be recognized as an **Open Only** command, and **Will Not close the gate.**

To automatically Close the gate after an open cycle, the control board timer must be turned ON. See page 26 about timer control.



## Input #23 and #24

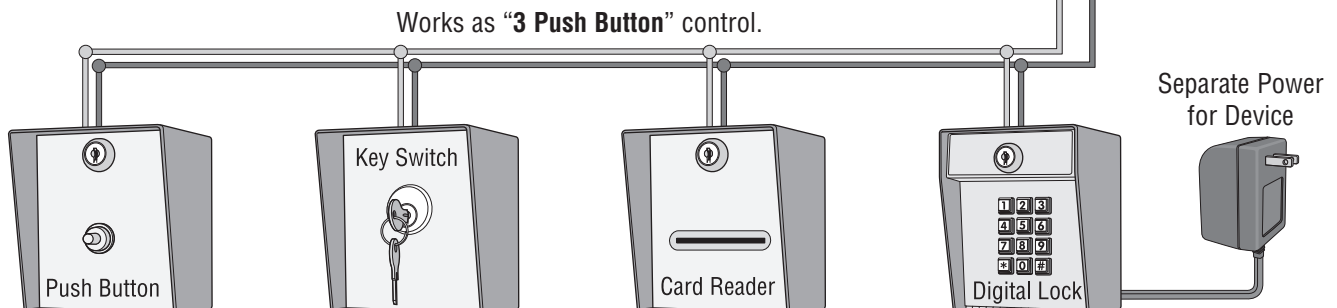
To provide a **Close** command use #23 and #24.

Wiring at #23 and #24 will be recognized as a **Three Push Button** command.

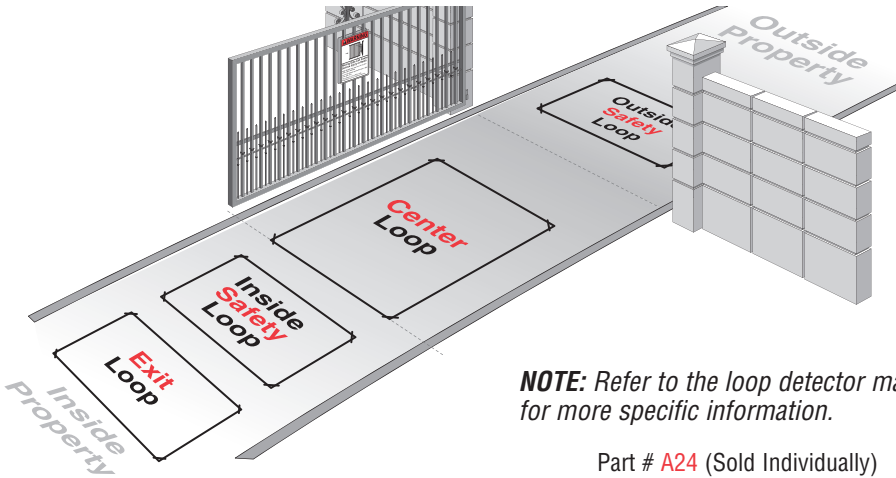
The **First** command will **open** the gate.

The **Second** command will **stop** the gate.

The **Third** command will **close** the gate.



# 24 VDC EXTERNAL LOOP DETECTOR WIRING



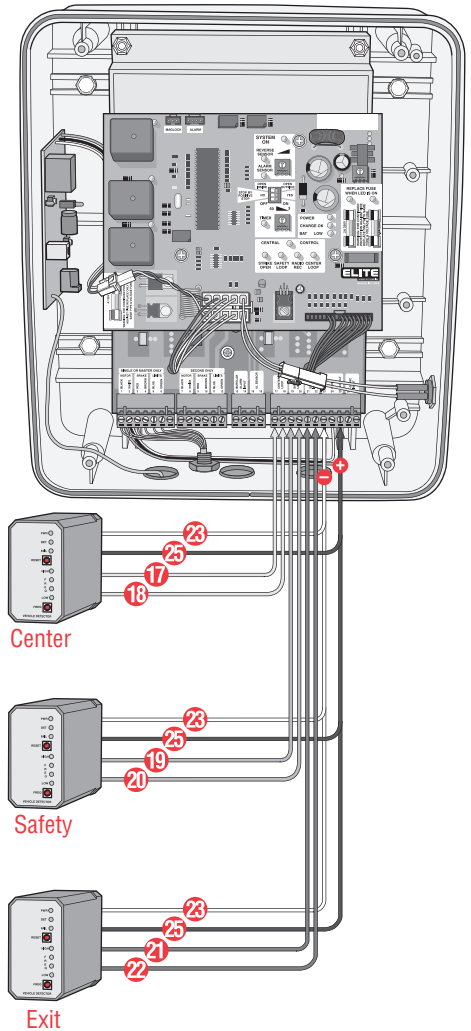
**24 Vdc “Center” Loop Detector** - Allows gate to stay open when vehicles are obstructing path. Caution: This option is for all vehicles including ones less than 14' long. Center loop system requires two safety loops.

**24 Vdc “Safety” Loop Detector** - Allows gate to stay open when vehicles are obstructing path. Caution: Suggested for vehicles 14 feet or longer. If a vehicle is shorter, a center loop system is recommended and should be installed.

If the “Inside” and “outside” safety loops are connected to the same loop detector:

- They should be series connected to the detector
- Have the same dimensions.
- Have the same number of wire turns. (See table below)

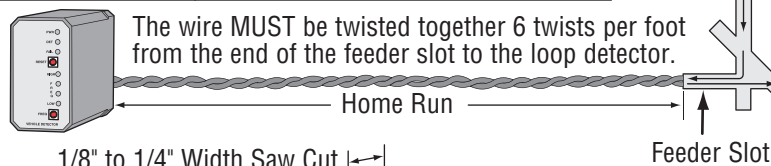
**24 Vdc “Exit” Loop Detector** - Allows gate to automatically open for exiting vehicles.



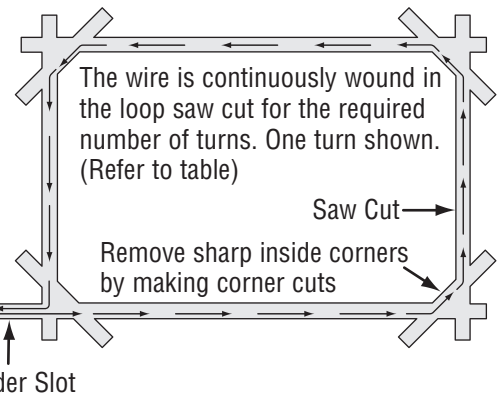
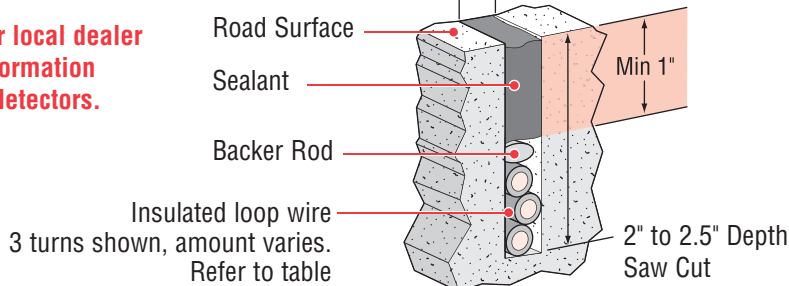
## Installing Insulated Loop Wire

Number of Wire Turns Needed for Loop Sizes

Loop Perimeter	Number of Wire Turns
10 feet to 13 feet	4
14 feet to 26 feet	3
27 feet to 80 feet	2
80 feet and up	1



Contact your local dealer for more information about loop detectors.



**Recommended Loop Wire XLPE 12-18 gauge**  
(Use heavier wire gauge for a more durable loop area).

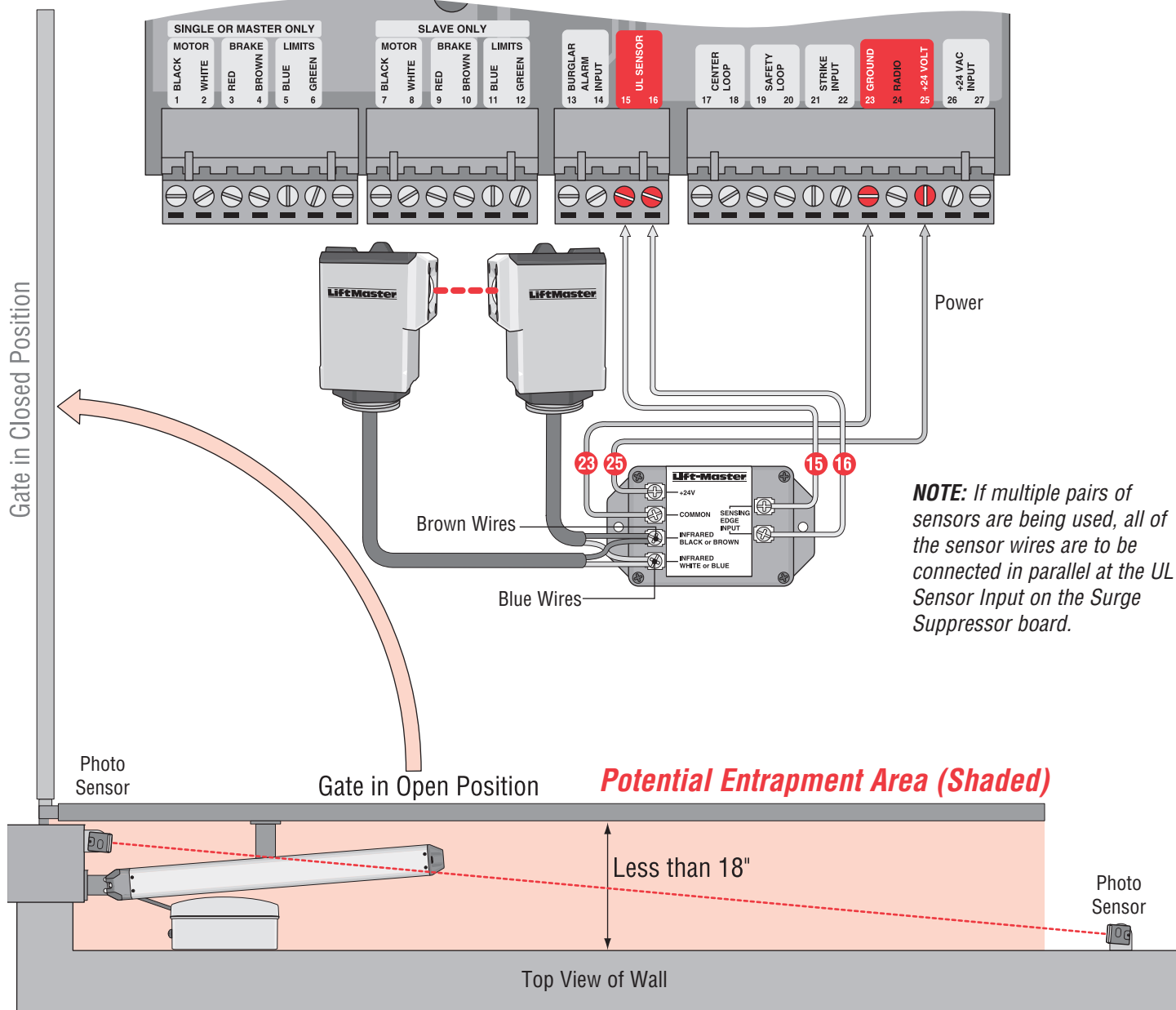
**NOTE:** Wire mesh or reinforcement imbedded in the road surface should be cut away a minimum of 6 inches from the perimeter of the loop.

# ENTRAPMENT PROTECTION DEVICE

## Non-Contact Sensors (24 Vdc Photo Electric Sensors)

To reduce the risk of injury, install photo electric sensors when the gate opens to **less than 18"** from a wall or any other object or **potential entrapment installation**. If you are going to use a non-contact sensor as a secondary entrapment protection you should use a recognized component to comply with the revised UL 325 intended to be used in class I or class II gate operator, like the following: LiftMaster 24 Vdc Photo Electric Sensors. Follow the installation instructions provided with the photo electric sensors for accurate placement of the sensors. **Contact your local dealer for more information about photo electric sensors.**

**NOTE:** Property owners are obligated to test photo sensors monthly.



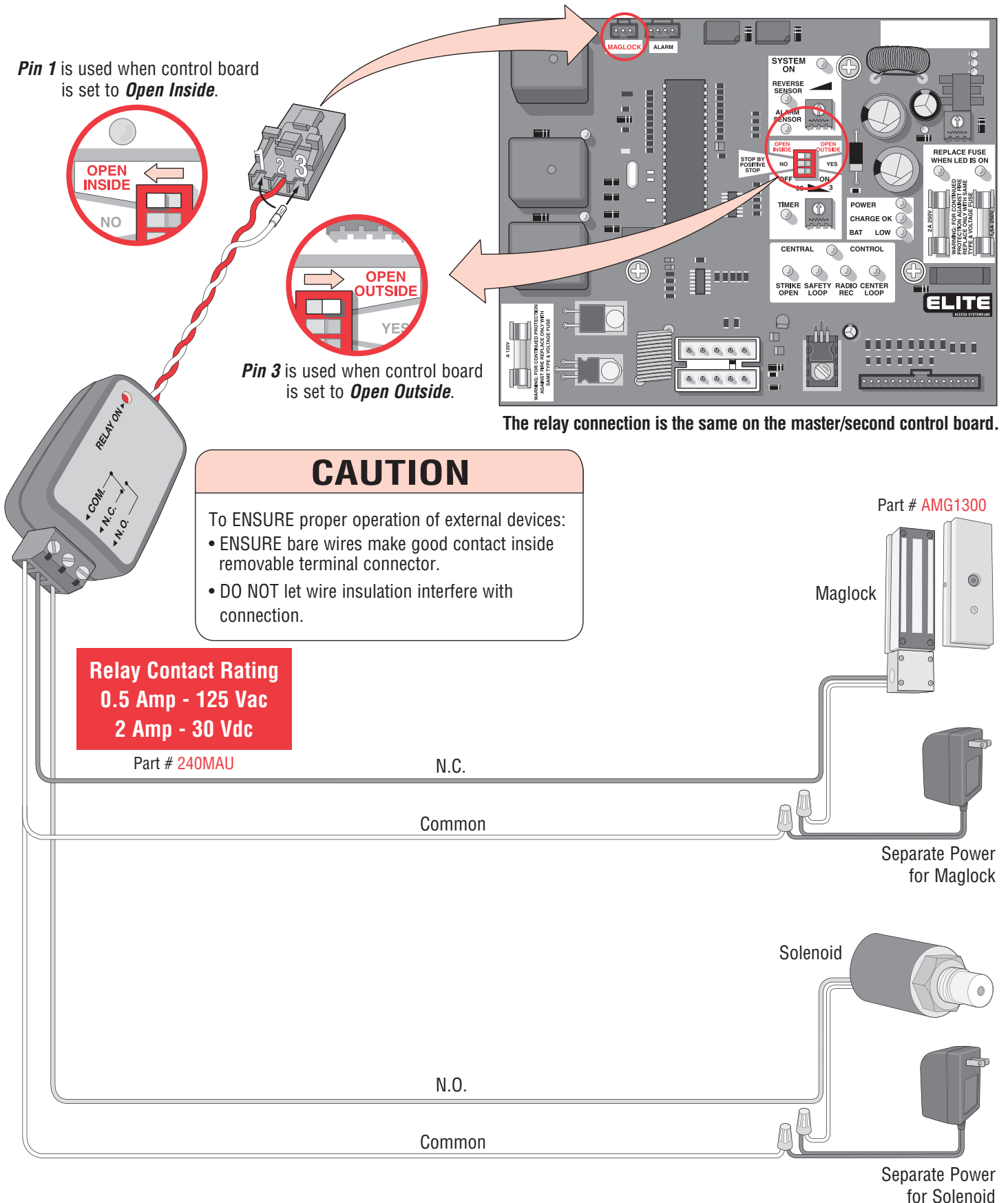
### ⚠ WARNING

To prevent SERIOUS INJURY or DEATH from a moving gate:

- Locate entrapment protection devices to protect in BOTH the open and close gate cycles.
- Locate entrapment protection devices to protect between moving gate and RIGID objects, such as posts or walls.

# MAGLOCK OR SOLENOID CONNECTION

**NOTE:** ONLY the optional relay module will allow interface with the maglock or solenoid. The gate opening direction must be previously set, see page 26.

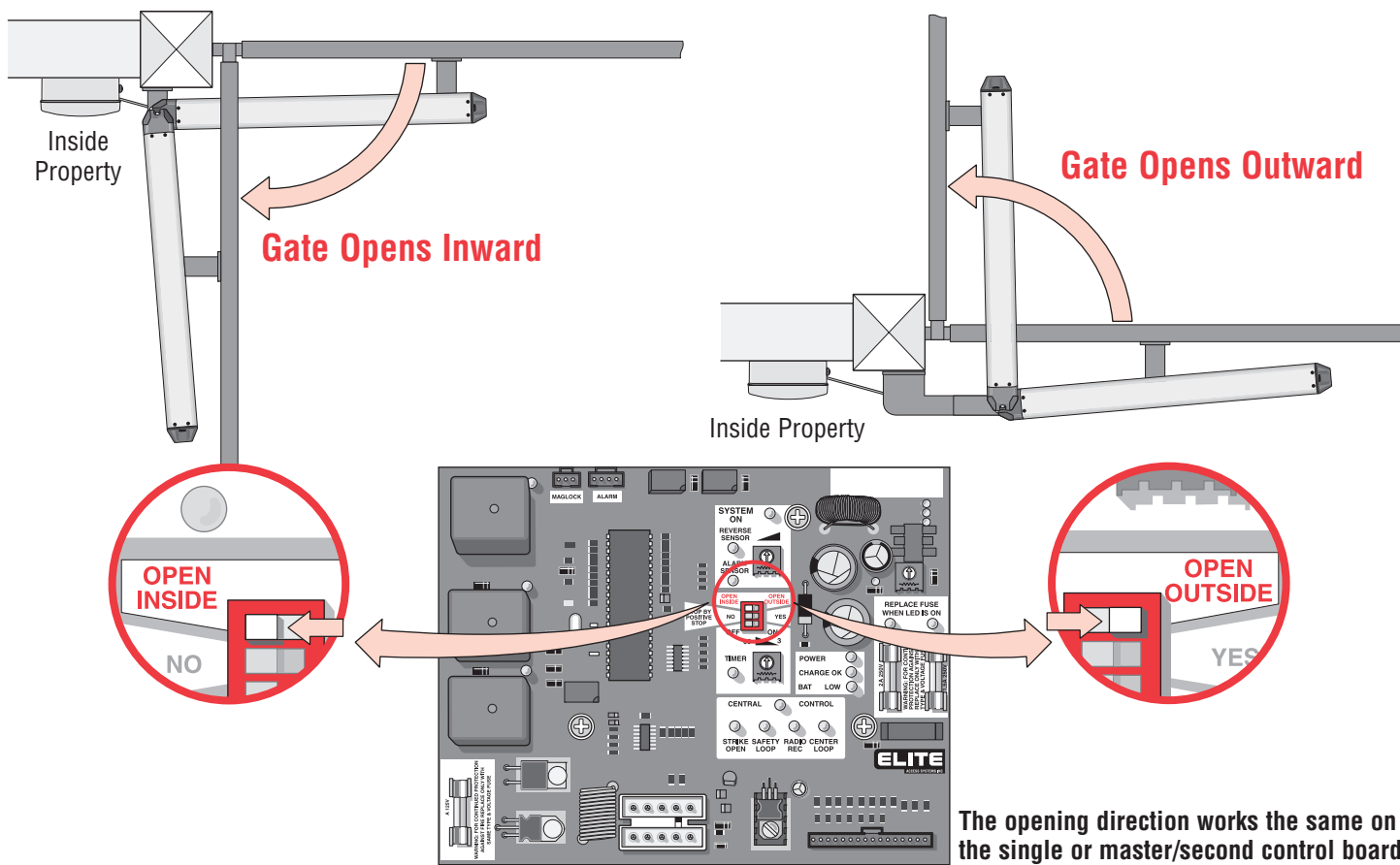


# Adjustments

## CAUTION

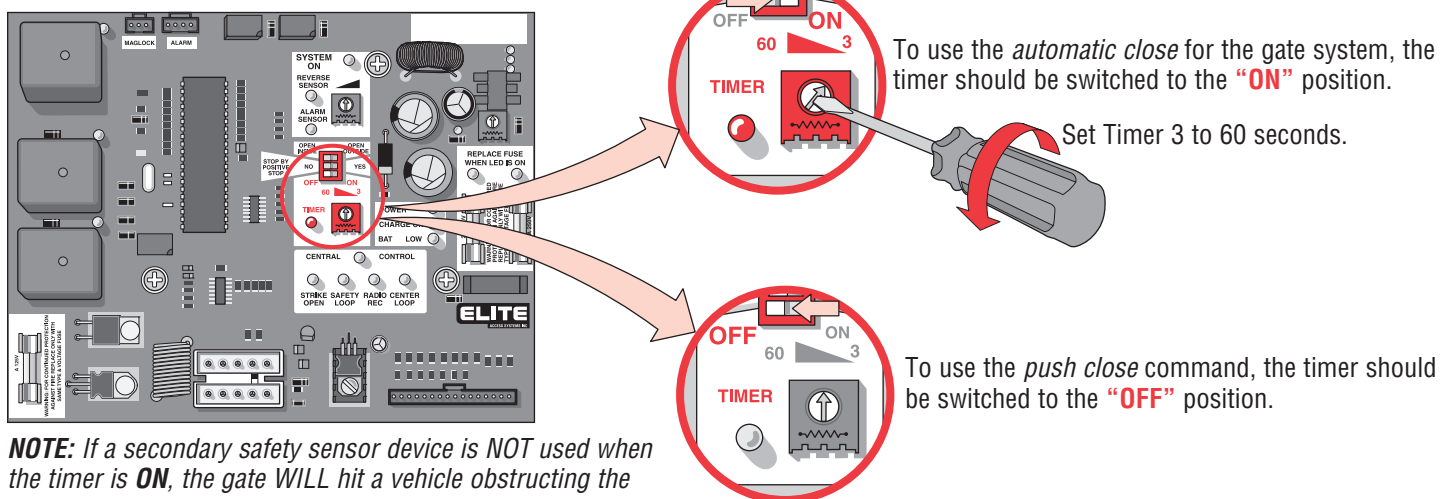
To reduce the risk of **SERIOUS INJURY** or **DEATH**:  
Disconnect power **BEFORE** performing **ANY** adjustments.

## SET GATE OPENING DIRECTION



## SETTING TIMER

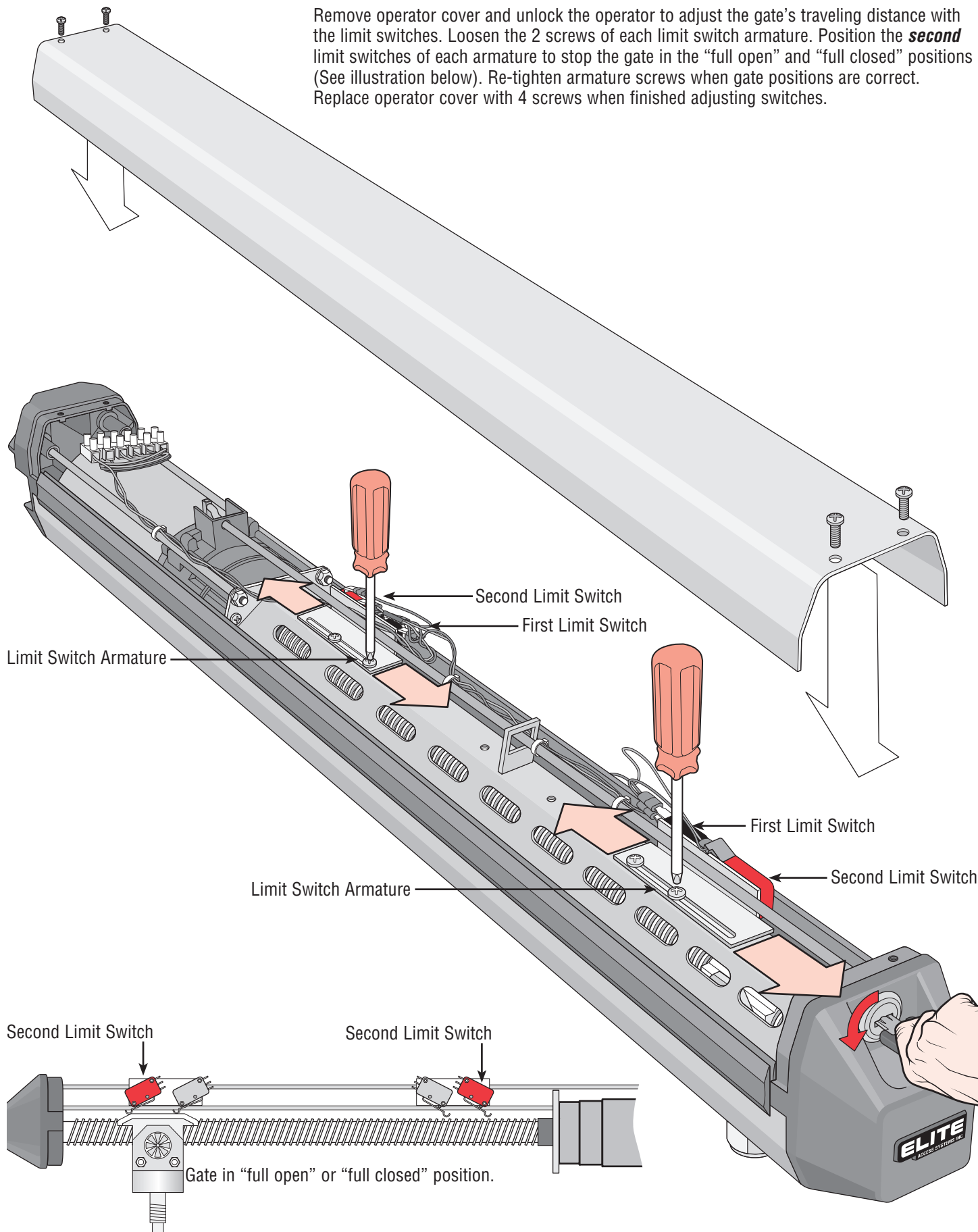
The timer works the same on the single or master/second control board.





## LIMIT SWITCH ADJUSTMENTS

Remove operator cover and unlock the operator to adjust the gate's traveling distance with the limit switches. Loosen the 2 screws of each limit switch armature. Position the **second** limit switches of each armature to stop the gate in the "full open" and "full closed" positions (See illustration below). Re-tighten armature screws when gate positions are correct. Replace operator cover with 4 screws when finished adjusting switches.



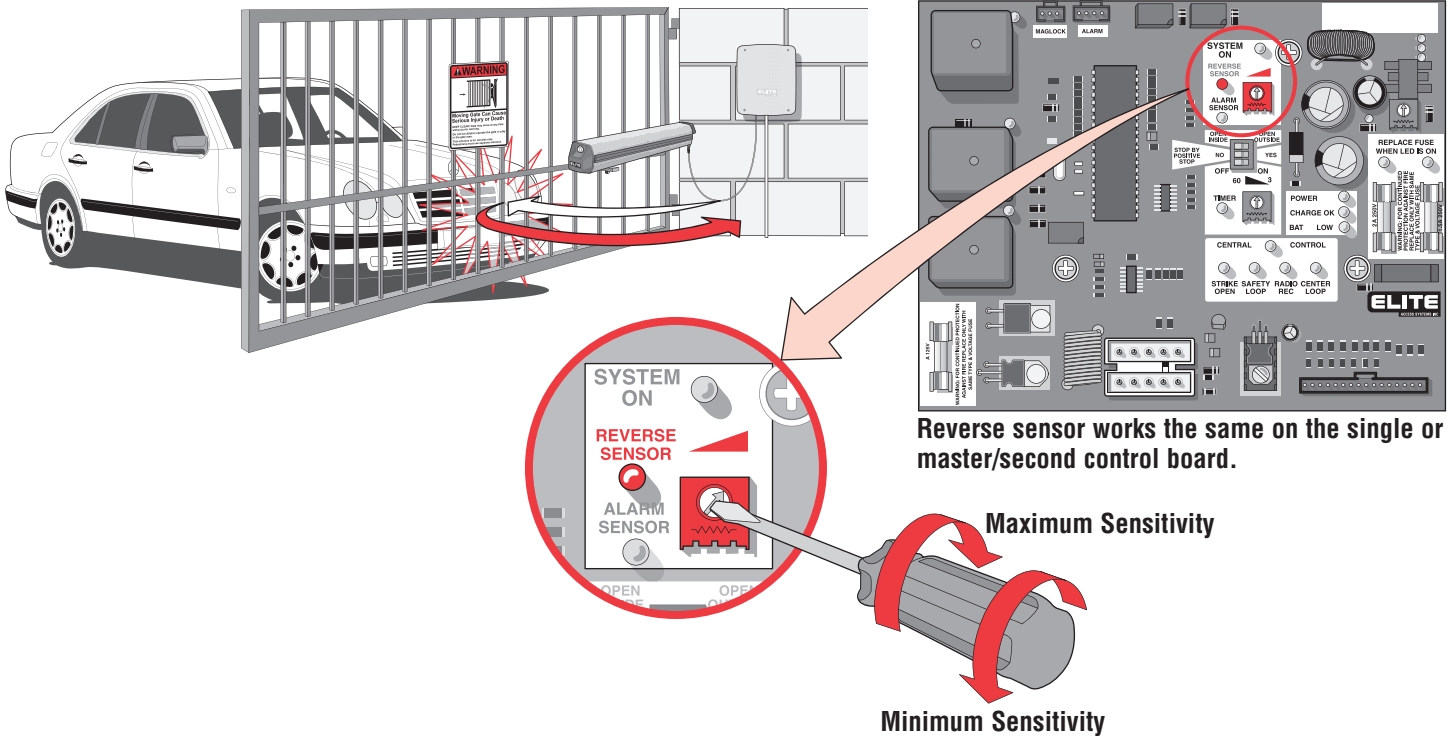


## ADJUSTING REVERSE SENSOR

Adjust the reverse sensor so when the gate hits any object while opening, it will **STOP**, and when the gate hits any object while closing, it will **REVERSE**. The reverse sensor must be adjusted while the gate is opening or closing.

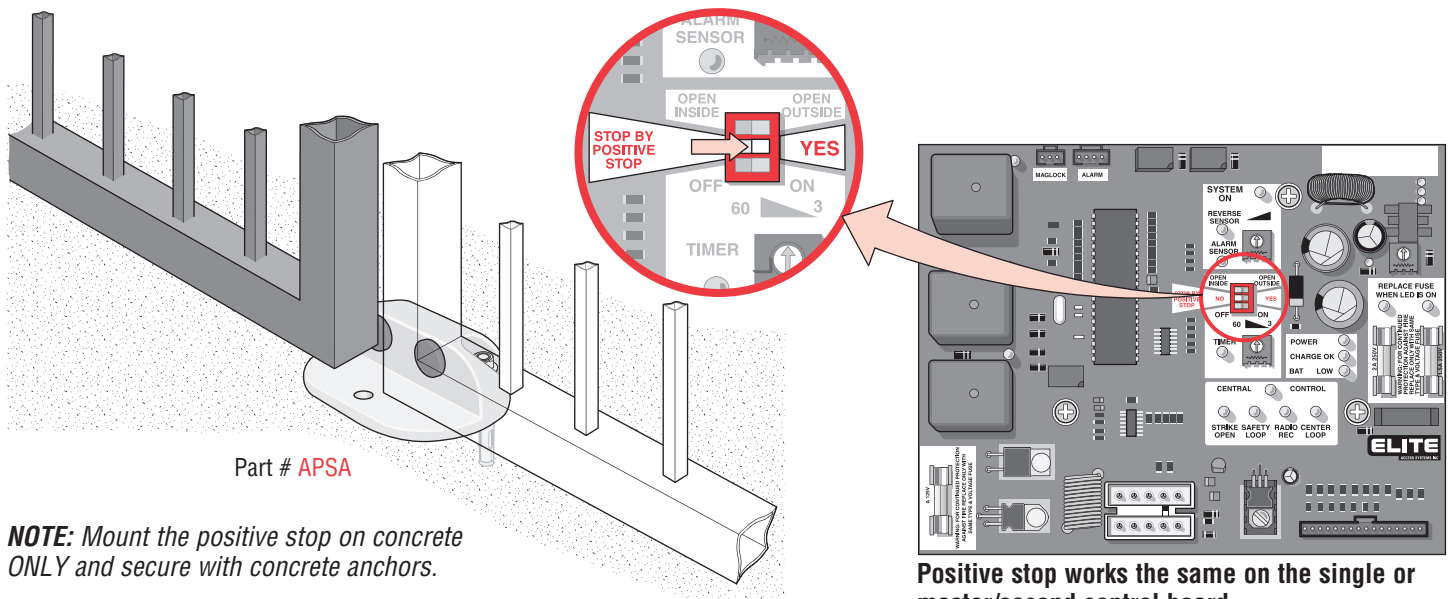
**Sensor is too sensitive** = if the gate stops in midcycle or reverses by itself.

**Sensor is not sensitive enough** = if the gate hits an object and does not stop or reverse.



## POSITIVE STOP SETTING

This switch is to be turned to **YES** when a **Physical Stop** is used to stop the gate(s). This can allow the gate(s) to be locked or secured in the closed position. The operator will use the "Positive Stop" at the gate's closed position. It is still necessary to adjust the operator's limit switches at the closed position. The control board will look for the limit close first, then the positive stop.



Part # APSA

**NOTE:** Mount the positive stop on concrete **ONLY** and secure with concrete anchors.

# 315 MHZ RADIO RECEIVER PROGRAMMING

## Setting Output Duration (M) or (C):

The receiver is factory set at **(M)** Momentary. To verify, refer to the label next to jumper P2. (See illustration below)

For commercial applications, the receiver can be set to either **(C)** constant or **(M)** momentary closure.

With the jumper in the **(M)** momentary position, the *contacts will close for 1/4 second regardless of the length of remote control transmission.*

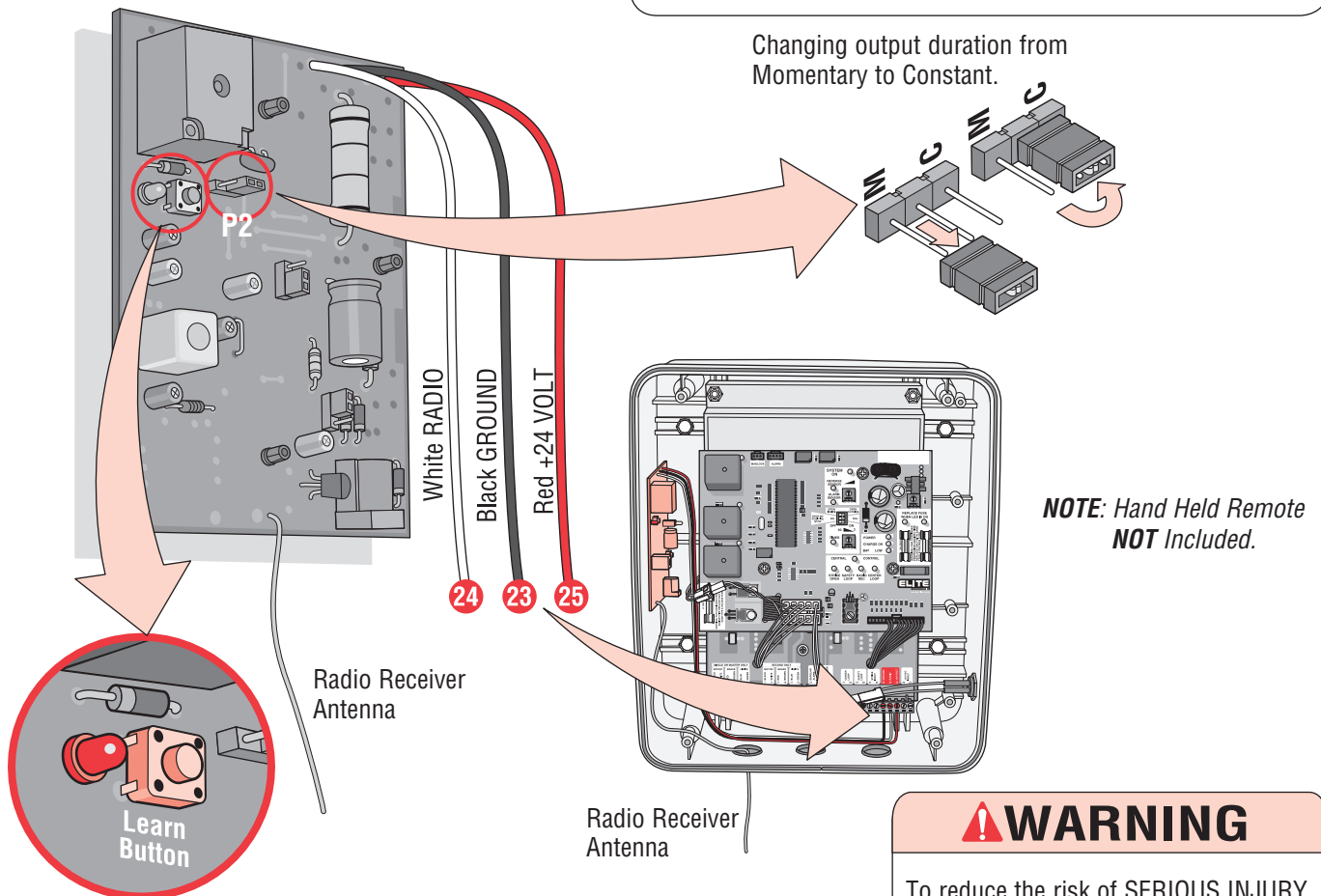
With the jumper in **(C)** constant position, the *contacts will stay closed as long as the remote control continues transmitting.* Push and **HOLD** remote button to open or close gate.

### CAUTION

To AVOID damaging receiver, disconnect receiver's power before changing jumper.

### WARNING

To reduce the risk of SERIOUS INJURY or DEATH, the use of CONSTANT OPERATION on residential operators is PROHIBITED.



## Programming Radio Receiver:

1. Press and release the **"Learn"** button on the receiver. The learn indicator light will glow steadily for 30 seconds.

2. Within 30 seconds, press and hold the button on the hand-held remote. The operator will now operate when the push button on the remote control is pressed.

Repeat Steps 1 and 2 for each remote control that will be used.

## Erase ALL Remote Control Codes:

Press and hold the **"Learn"** button on the receiver panel until the indicator light turns off (about 6 seconds). All previous codes are now erased. Reprogram each remote you wish to use.

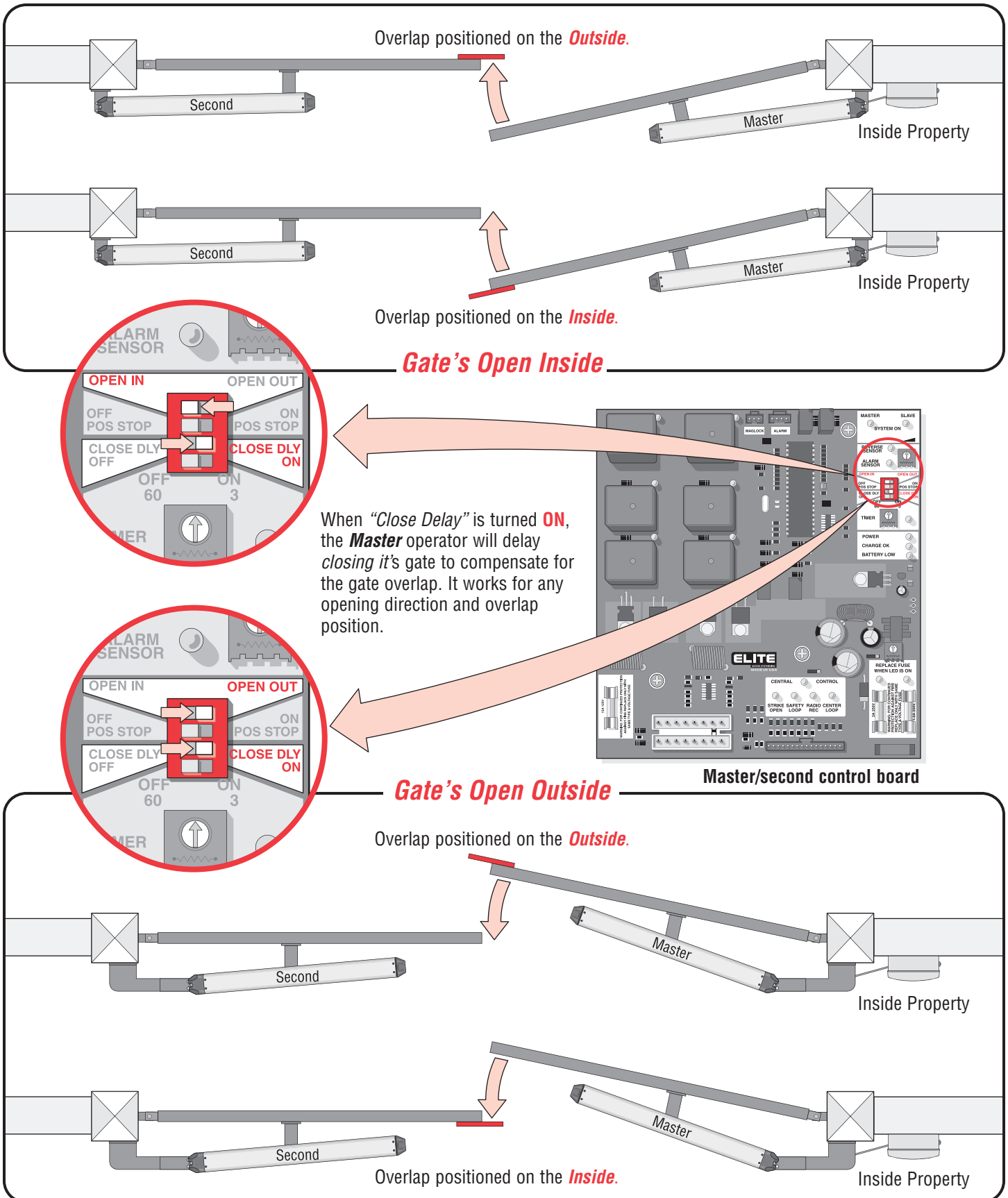
### WARNING

To reduce the risk of SERIOUS INJURY or DEATH from a moving gate:

- ALWAYS keep remote controls out of reach of children. NEVER permit children to operate, or play with remote control.
- Activate gate ONLY when it can be seen clearly, is properly adjusted, and there are no obstructions in gate's path.
- ALWAYS keep gate in sight until completely closed. NEVER permit anyone to cross path of a moving gate.

# CLOSE DELAY FOR OVERLAPPING GATES

## Master/Second Gates with Overlap



# Maintenance and Operation

## IMPORTANT SAFETY INSTRUCTIONS

### WARNING

#### To reduce the risk of SEVERE INJURY or DEATH:

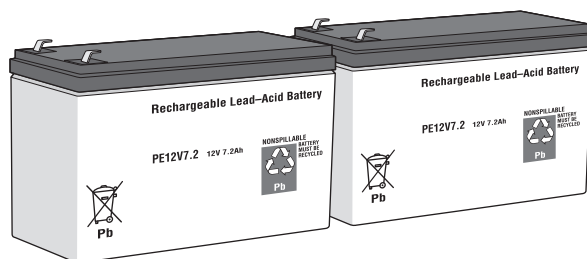
1. READ AND FOLLOW ALL INSTRUCTIONS.
2. NEVER let children operate or play with gate controls. Keep the remote control away from children.
3. ALWAYS keep people and objects away from the gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
4. Test the gate operator monthly. The gate MUST reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of INJURY or DEATH.
5. Use the emergency release ONLY when the gate is not moving.
6. KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.
7. The entrance is for vehicles ONLY. Pedestrians MUST use separate entrance.
8. Disconnect ALL power BEFORE performing ANY maintenance.
9. ALL maintenance MUST be performed by a LiftMaster professional.
10. To reduce the risk of FIRE or INJURY to persons use ONLY Chamberlain part #ABTMIR for replacement batteries.
11. **SAVE THESE INSTRUCTIONS.**

## MAINTENANCE:

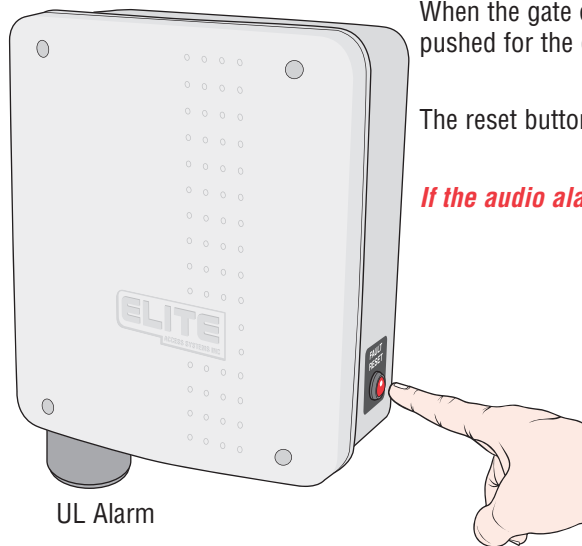
1. Disconnect power before servicing.
2. Severe or high cycle usage will require more frequent maintenance checks.
3. Inspection and service should always be performed anytime a malfunction is observed or suspected.
4. When servicing, please do some "house cleaning" of the operator and the area around the operator. Pick up any debris in the area. Clean the operator as needed.
5. This linear swing gate operator is designed to be very low in maintenance. For intensive duty installations: (every six months) lubricate the operator fitting plates, lubricate the gate hinges, and check that electric connections are in good condition.
6. Check external entrapment devices monthly for proper operation.
7. It is suggested that while at the site voltage readings be taken at the operator. Using a Digital Voltmeter, verify that the incoming voltage to the operator it is within ten percent of the operators rating.

### CAUTION

ALWAYS wear protective gloves and eye protection when changing the battery working around the battery compartment.



## BUILT-IN RESET BUTTON



When the gate operator's audio alarm (See below) has been tripped, the reset button must be pushed for the operator to function again.

The reset button will shut off an activated audio alarm and reset the operator to function again.

*If the audio alarm goes off, always check the gate area for:*

- *Obstructions in the gate path.*
- *Damage to the gate and/or gate operator.*

### Party Mode (Timer Defeat - Hold Open)

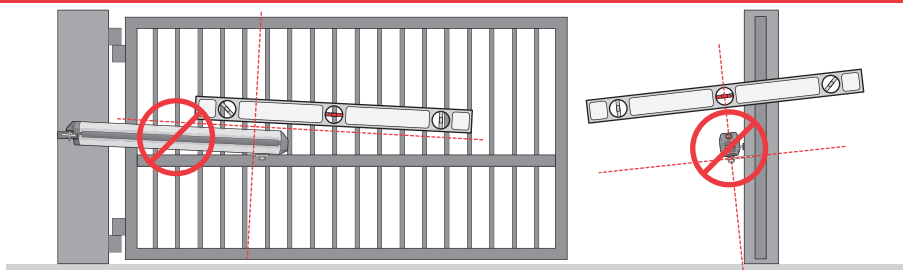
When the "Timer to Close" feature is activated for normal daily operation and you wish to leave the gate(s) in the open position for any extended period of time you can activate the "Party Mode" by pushing the "Reset Button" located on the outside of the electrical box. To exit this mode, simply give the gate(s) a command to run by using the remote control. This will close the gate(s) and return the operator to normal operation.

**Pressing the reset button will stop a moving gate during a normal open/close cycle, like a stop button. The operator does **NOT** need to be reset after doing this.**

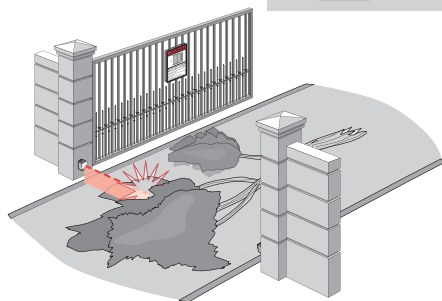
## AUDIO ALARM

The alarm could be tripped when one of the following happens **Twice Consecutively**, then the alarm will sound for **5 minutes or until the reset button is pressed!**

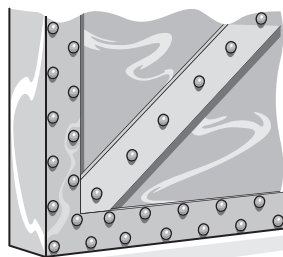
**Press the Built-In Reset Button to Shut Off Alarm and Reset Operator (See above)**



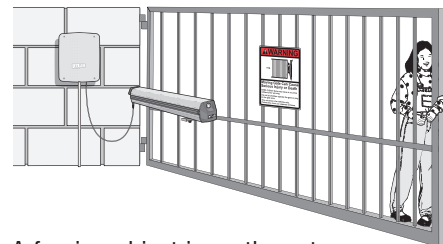
The operator arm or gate is incorrectly installed.



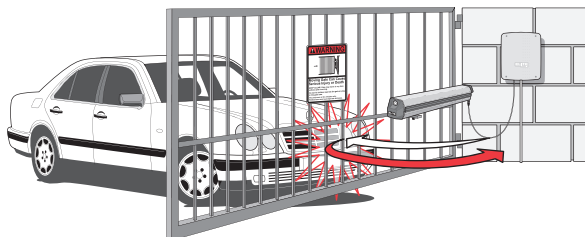
An externally wired safety sensor has been triggered twice. (Photo beam blocked)



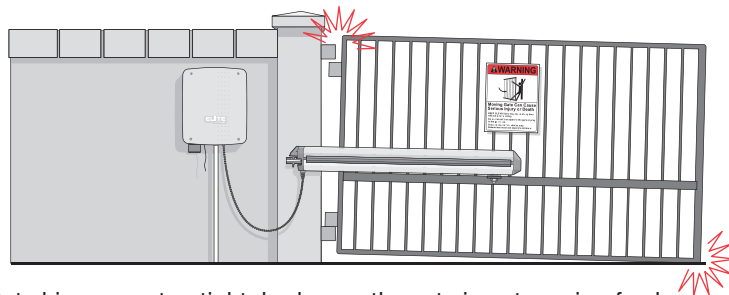
The gate is TOO heavy.



A foreign object is on the gate frame while the gate is moving.



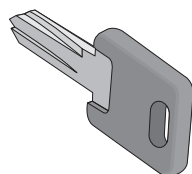
The gate is moving and a car pushes the gate.



Gate hinges are too tight, broken or the gate is not moving freely.

## EMERGENCY MANUAL RELEASE

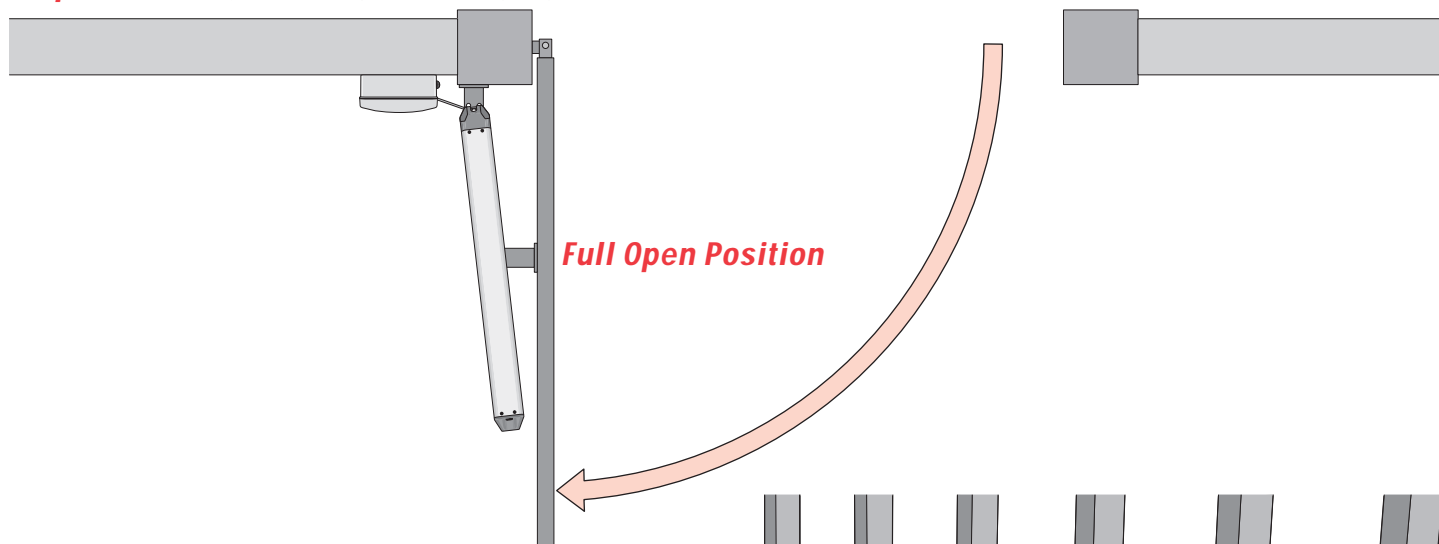
**Step 1:** To move the gate during an emergency or power failure, insert key and turn counterclockwise to Unlock the operator from the gate.



Key provided



**Step 2:** Move the gate manually to the full open position 90°.



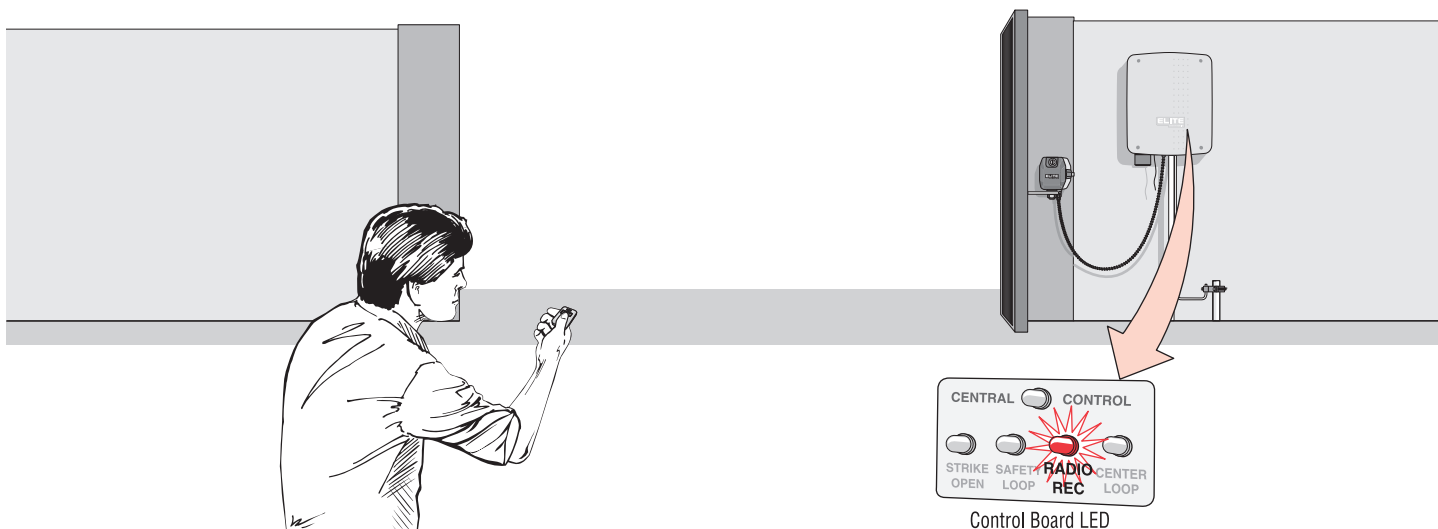
**Step 3:** Re-Lock the operator by turning the key clockwise while pushing or pulling on the gate until you hear the key release click into place. The operator can resume normal operation as soon as power is restored.





# Troubleshooting

**The Gate Will Not Operate with Remote:** The radio receiver LED on the control board remains **“ON”** when using the remote control.



## Probable Causes:

1. Stuck remote control button.
2. The radio receiver has malfunctioned in the **“ON”** position.

## Solutions:

- Unstick remote control button.
- Cycle the power to the radio receiver.

**The Gate Will Not Operate with Remote:** The radio receiver LED on the control board remains **“OFF”** when using the remote control.



## Probable Causes:

1. Remote control battery is dead.
2. The radio receiver has malfunctioned in the **“OFF”** position.
3. Radio receiver's signal is not getting to gate operator.
4. Remote is not programmed correctly.
5. Remote is not on the same frequency as the radio receiver.
6. Blown surge suppressor board.

## Solutions:

- Get new remote control battery.
- Cycle the power to the radio receiver. Remote control will need to be reprogrammed, see page 29.
- Check wiring between receiver and surge suppressor.
- Reprogram remote control, see page 29.
- Verify that remote control frequency is 315 MHz.
- Measure the resistance between pin 24 and 25 on the surge suppressor (see page 17), if the circuit **“closes”** when the radio receiver is transmitting, replace the surge suppressor.



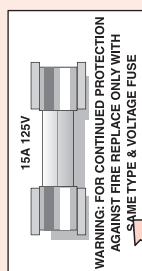
# TROUBLESHOOTING CONTINUED

## Check the Fuses

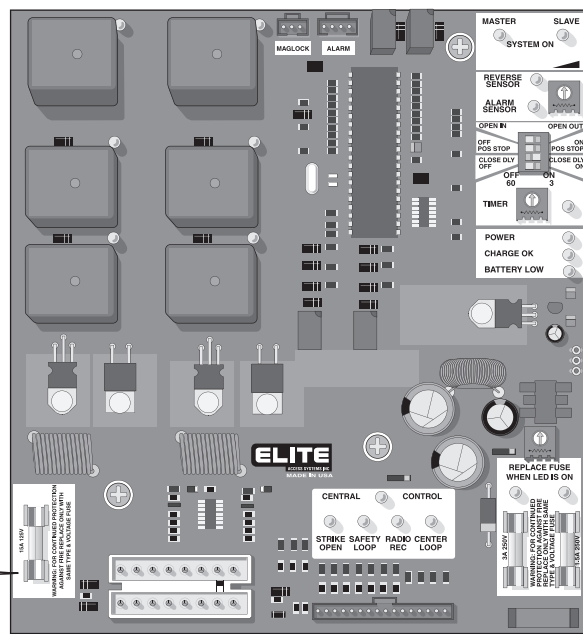
If the gate is not moving in any direction be sure to check all of the LED displays on the control board. If the board power or charging power LEDs are on, change the corresponding fuse on the right side of the board.

### Master/Second Board

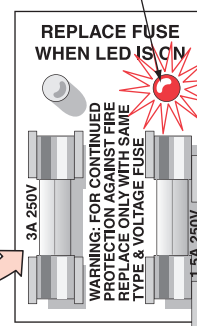
If the motor will not work, and all LED's on the board are ok, check the fuse on the left side of the board and replace if necessary.



15 Amp

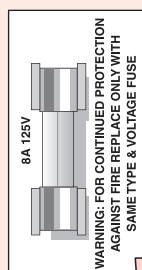


Change Fuse

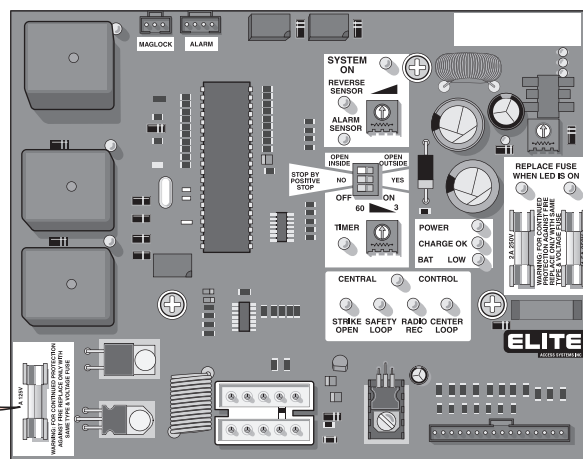


3 Amp 1.5 Amp

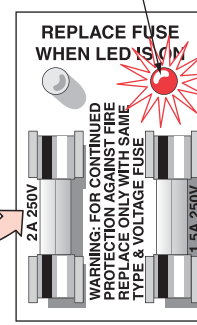
### Single Board



8 Amp



Change Fuse

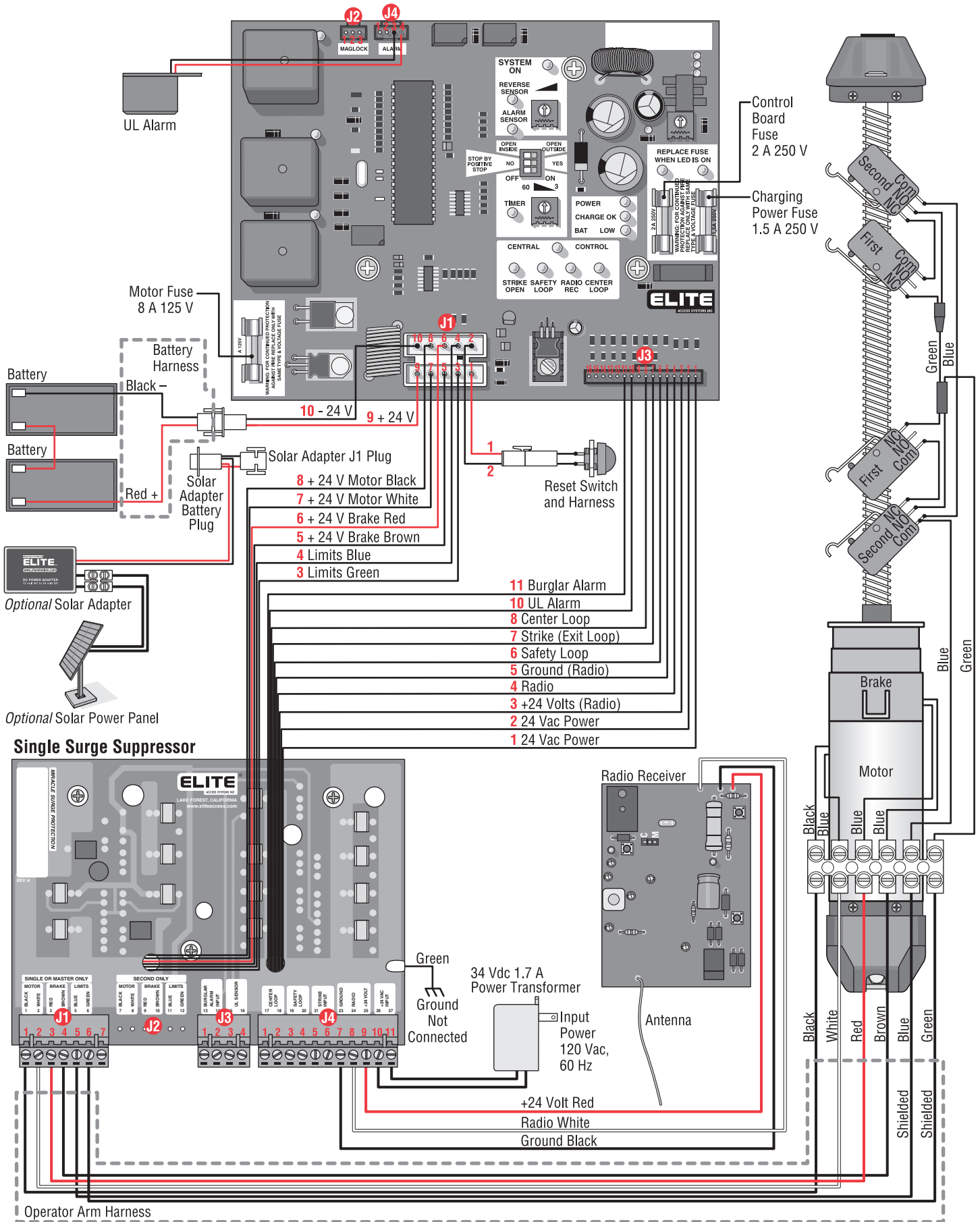


2 Amp 1.5 Amp

If left side board fuse is blowing on a regular basis, make sure operator is operating smoothly. Verify traveler carriage washer placement, it should be on top of the mounting bracket (See page 12). Check motor wire connections.

Replace the fuses only with specified rating (provided by Chamberlain Elite).

# WIRING DIAGRAM • MIRACLE-ONE™ SINGLE

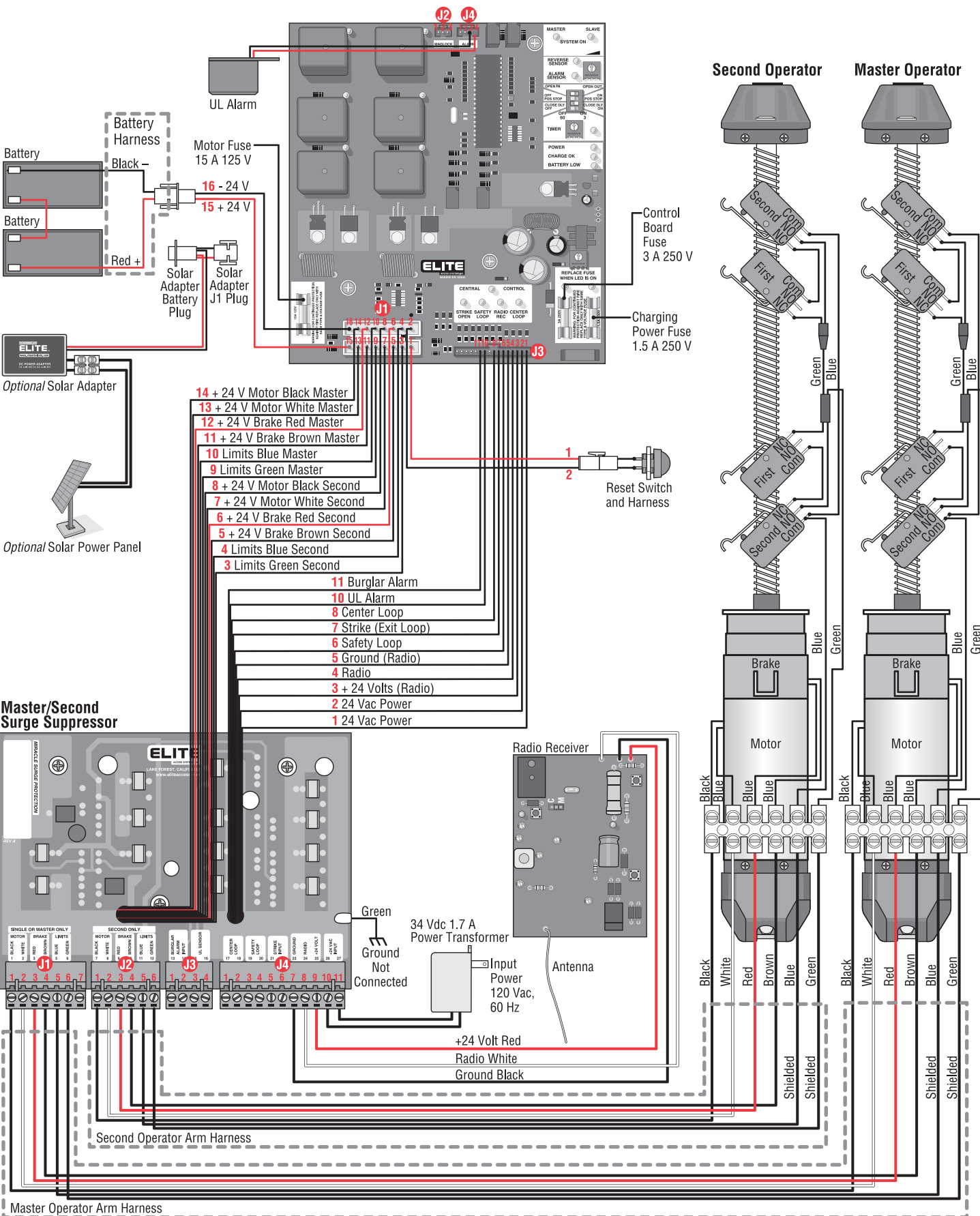


# WIRING DIAGRAM TABLE • MIRACLE-ONE™ SINGLE

Miracle-One™ Single Control Board						
J #	J Pin #	Signal Type	Direction	Level (+/- 10%)	Surge Pin #	Device Connection
J1	1	Reset Button - Red			—	Reset Button Input
J1	2	Reset Button - Black			—	
J1	3	Limits - Green			—	Surge Suppressor Input
J1	4	Limits - Blue			—	
J1	5	Brake - Brown			—	
J1	6	Brake - Red			—	
J1	7	Motor - White			—	
J1	8	Motor - Black			—	
J1	9	Battery + (Red)	In	24 Vdc	—	Battery Input
J1	10	Battery – (Black)	In	24 Vdc	—	
J2	1	Close			—	Maglock/ Solenoid Input
J2	2	+ 12 V			—	
J2	3	Open			—	
J3	1	24 Vac Power			—	Surge Suppressor Input
J3	2	24 Vac Power			—	
J3	3	Power (Radio)			—	
J3	4	Radio			—	
J3	5	Ground (Radio)			—	
J3	6	Safety Loop			—	
J3	7	Strike (Exit Loop)			—	
J3	8	Center Loop			—	
J3	9	—	—	—	—	
J3	10	UL Alarm	Out		—	
J3	11	Burglar Alarm	In		—	
J3	12	—	—	—	—	
J3	13	—	—	—	—	
J3	14	—	—	—	—	
J3	15	—	—	—	—	
J3	16	—	—	—	—	
J4	1	Burglar Alarm - Open			—	Burglar Alarm and UL Alarm Inputs
J4	2	Burglar Alarm - Open			—	
J4	3	UL Alarm - Black			—	
J4	4	UL Alarm - Red			—	
Single Surge Suppressor						
J1	1	Motor - Black Wire Input			1	Single Operator Input
J1	2	Motor - White Wire Input			2	
J1	3	Brake - Red Wire Input			3	
J1	4	Brake - Brown Wire Input			4	
J1	5	Limits - Blue Wire Input			5	
J1	6	Limits - Green Wire Input			6	
J1	7	—	—	—	—	
J2	—	Not Installed	—	—	—	Second Operator Input Not Installed
J2	—	Not Installed	—	—	—	
J2	—	Not Installed	—	—	—	
J2	—	Not Installed	—	—	—	
J2	—	Not Installed	—	—	—	
J2	—	Not Installed	—	—	—	
J3	1	Burglar Alarm			13	Burglar Alarm and UL Alarm Inputs
J3	2	Burglar Alarm			14	
J3	3	UL Sensor			15	
J3	4	UL Sensor			16	
J4	1	Center Loop			17	Loop Detector Inputs
J4	2	Center Loop			18	
J4	3	Safety Loop			19	
J4	4	Safety Loop			20	
J4	5	Strike Input - Exit Loop			21	
J4	6	Strike Input - Exit Loop			22	
J4	7	Ground (Black)		0 Vdc	23	Radio Receiver Input
J4	8	Radio (White)			24	
J4	9	+ 24 Volt (Red)			25	
J4	10	+24 Vac	In	24 Vdc	26	34 Vdc Transformer Input
J4	11	+24 Vac	In	24 Vdc	27	

**NOTE:** See diagram on previous page.

## WIRING DIAGRAM • MIRACLE-ONE™ MASTER/SECOND



**NOTE:** See table on next page.

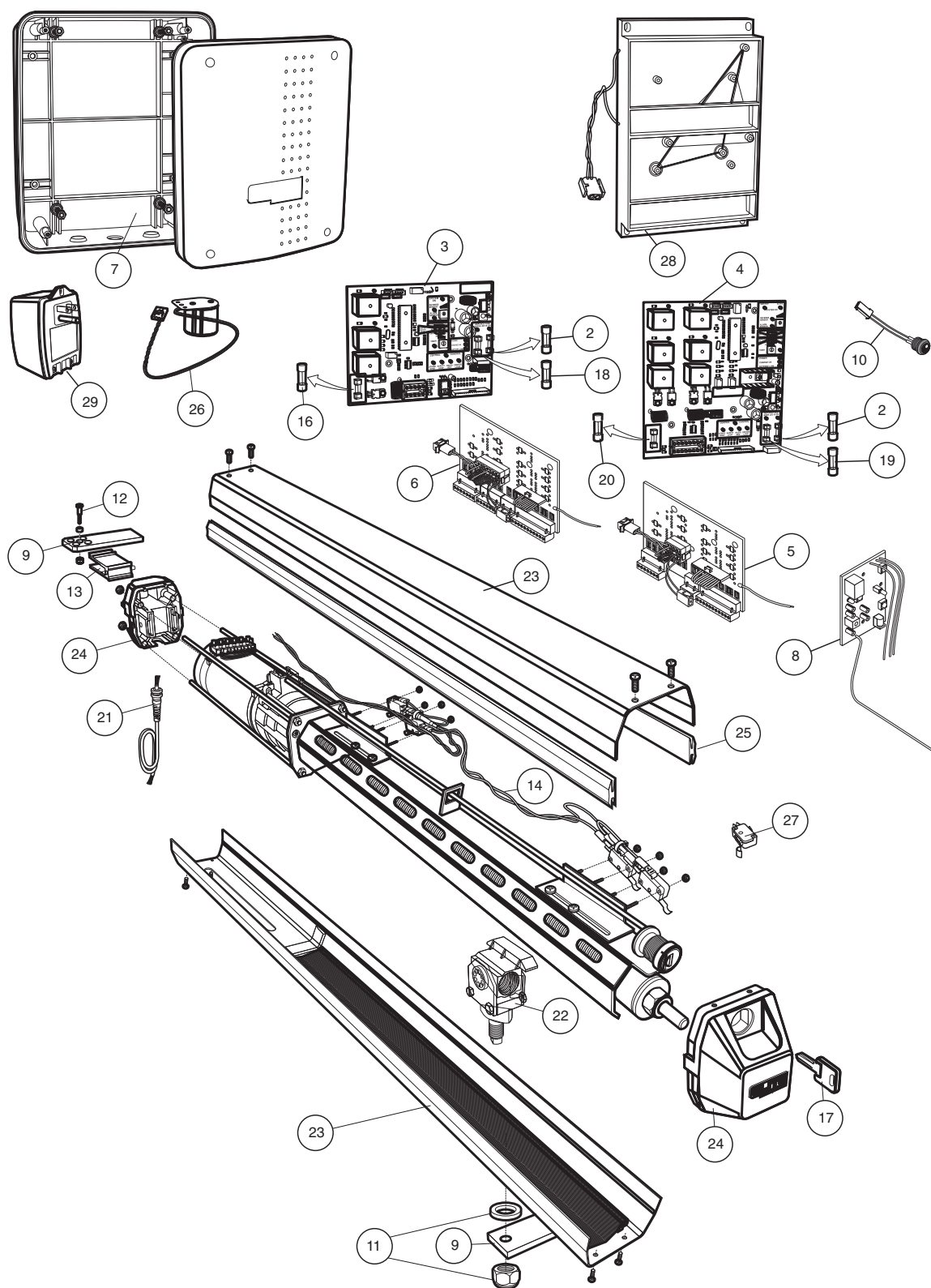
# WIRING DIAGRAM TABLE • MIRACLE-ONE™ MASTER/SECOND

Miracle-One™ Master/Second Control Board						
J #	J Pin #	Signal Type	Direction	Level (+/- 10%)	Surge Pin #	Device Connection
J1	1	Reset Button - Red			—	Reset Button Input
J1	2	Reset Button - Black			—	
J1	3	Limits - Green Second			—	Surge Suppressor Input
J1	4	Limits - Blue Second			—	
J1	5	Brake - Brown Second			—	
J1	6	Brake - Red Second			—	
J1	7	Motor - White Second			—	
J1	8	Motor - Black Second			—	
J1	9	Limits - Green Master			—	
J1	10	Limits - Blue Master			—	
J1	11	Brake - Brown Master			—	
J1	12	Brake - Red Master			—	
J1	13	Motor - White Master			—	
J1	14	Motor - Black Master			—	
J1	15	Battery + (Red)	In	24 Vdc	—	Battery Input
J1	16	Battery – (Black)	In	24 Vdc	—	
J2	1	Close			—	Maglock/ Solenoid Input
J2	2	+ 12 V			—	
J2	3	Open			—	
J3	1	24 Vac Power			—	Surge Suppressor Input
J3	2	24 Vac Power			—	
J3	3	Power (Radio)			—	
J3	4	Radio			—	
J3	5	Ground (Radio)			—	
J3	6	Safety Loop			—	
J3	7	Strike (Exit Loop)			—	
J3	8	Center Loop			—	
J3	9	—	—	—	—	
J3	10	UL Alarm	Out	—	—	
J3	11	Burglar Alarm	In	—	—	
J3	12	—	—	—	—	
J3	13	—	—	—	—	
J3	14	—	—	—	—	
J3	15	—	—	—	—	
J3	16	—	—	—	—	
J4	1	Burglar Alarm - Open			—	Burglar Alarm and UL Alarm Inputs
J4	2	Burglar Alarm - Open			—	
J4	3	UL Alarm - Black			—	
J4	4	UL Alarm - Red			—	
Master/Second Surge Suppressor						
J1	1	Motor - Black Wire Input			1	Master Operator Input
J1	2	Motor - White Wire Input			2	
J1	3	Brake - Red Wire Input			3	
J1	4	Brake - Brown Wire Input			4	
J1	5	Limits - Blue Wire Input			5	
J1	6	Limits - Green Wire Input			6	
J1	7	—	—	—	—	
J2	1	Motor - Black Wire Input			7	Second Operator Input
J2	2	Motor - White Wire Input			8	
J2	3	Brake - Red Wire Input			9	
J2	4	Brake - Brown Wire Input			10	
J2	5	Limits - Blue Wire Input			11	
J2	6	Limits - Green Wire Input			12	
J3	1	Burglar Alarm			13	Burglar Alarm and UL Alarm Inputs
J3	2	Burglar Alarm			14	
J3	3	UL Sensor			15	
J3	4	UL Sensor			16	
J4	1	Center Loop			17	Loop Detector Inputs
J4	2	Center Loop			18	
J4	3	Safety Loop			19	
J4	4	Safety Loop			20	
J4	5	Strike Input - Exit Loop			21	
J4	6	Strike Input - Exit Loop			22	
J4	7	Ground (Black)		0 Vdc	23	Radio Receiver Input
J4	8	Radio (White)			24	
J4	9	+ 24 Volt (Red)			25	
J4	10	+24 Vac	In	24 Vdc	26	34 Vdc Transformer Input
J4	11	+24 Vac	In	24 Vdc	27	

**NOTE:** See diagram on previous page.

# Repair Parts

## REPAIR PART ILLUSTRATIONS



**NOTE:** See part names on next page.

## REPAIR PART NAMES AND NUMBERS

### INDIVIDUAL PARTS

ITEM	PART#	DESCRIPTION
2	Q162	1.5 Amp Fuse
3	Q222	Control Board (Single Operator)
4	Q223	Control Board (Master/Second)
5	Q310	Surge Protection (Single)
6	Q311	Surge Protection (Master/Second)
7	Q227P	Plastic Control Board Box (Nuts and Bolts for Battery Rack)
8	K33-51206-315	Radio Receiver Board
9	Q230	Steel Bracket Mounting Plates (2)
10	K23-19380-2	Reset Switch and Harness
11	Q232	Bottom Washer and Nut (For Traveler Carriage)
12	Q233	Bolt, Bushing, Nut (Fits Rear Mount of Operator)
13	Q234	Bracket/Rod
14	Q239	Limit Switch Harness (Wires and 4 Limit Switches)
16	Q243	8 Amp Fuse - Single
17	Q257	Replacement Key/Lock (Operator Made Post 3/14/99)
18	Q258	Fuse - 2 Amp - Single
19	Q259	Fuse - 3 Amp - M/S
20	Q260	15 Amp Fuse (2)
21	Q262	Harness-Motor (Operator Cord) with Flex Conduit
22	Q300	Traveler Carriage
23	Q301	Arm Cover Set (Top and Bottom Aluminum)
24	Q302	Arm End Caps (Set)
25	Q303	Arm Cover Gaskets (Set)
26	Q404	UL Audio Alarm
27	Q029	Limit Switch (1)
28	ABTMIR	Plastic Rack and 2 Batteries
29	APOW3	34 Vdc 1.7 A Transformer

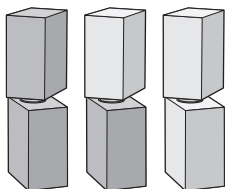
### NOT SHOWN

ITEM	PART#	DESCRIPTION
	K94-50838	6 Conductor Wire Cable per ft.
	29-NP712	Battery
	K77-50983	40' Cable w/Connectors and Junction Box for M/S applications
	Q306	Arm Upgrade Kit Traveler Carriage Arm Cover Set Arm Cover Gaskets Limit Switch Harness



# Accessories

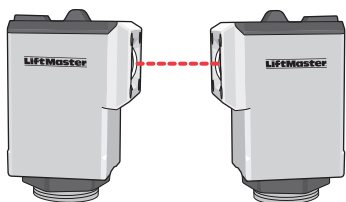
## Power Hinges



## 24 Vdc Photo Sensors

Page 24

Part # **CPSN4**

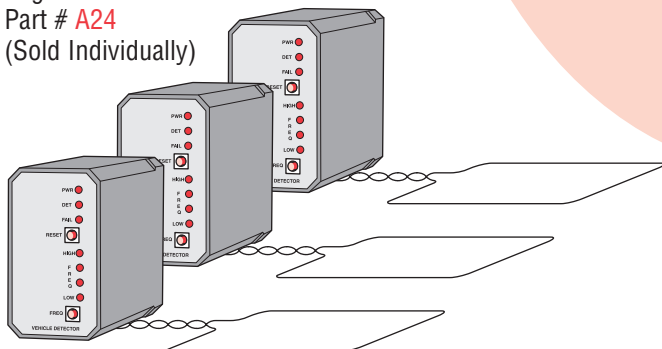


## 24 Vdc External Loop Detectors

Page 23

Part # **A24**

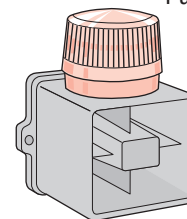
(Sold Individually)



For more information about accessories:  
[www.liftmaster.com](http://www.liftmaster.com)

## Outdoor Siren with Strobe Light

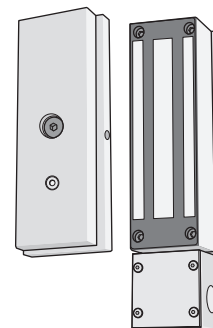
Part # **ASSA**



## Magnetic Locks (Outdoor)

Page 25

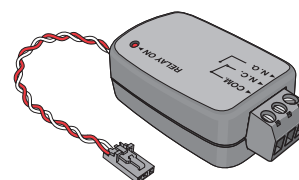
Part # **MG1300**



## Maglock/Solenoid Relay Adapter Module

Page 25

Part # **Q240MAU**



## LiftMaster SECURITY+



Mini 3 Button  
Part # **370LM**



Part # **371LM**



Part # **372LM**



Part # **373LM**



Part # **374LM**

## LiftMaster



Part # **CPT13**



Part # **CPT23**



Part # **CPT33**



Part # **CPT43**



Mini 3 Button  
Part # **CPTK33**



Mini 3 Button with  
HID Prox, Sensor  
Part # **CPTK33PH**

# HOW TO ORDER REPAIR PARTS

OUR LARGE SERVICE ORGANIZATION SPANS AMERICA. INSTALLATION AND SERVICE INFORMATION IS AS NEAR AS YOUR TELEPHONE . SIMPLY DIAL OUR TOLL FREE NUMBER:

**1-800-528-2806**

[www.liftmaster.com](http://www.liftmaster.com)

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- PART NUMBER
- PART NAME
- MODEL NUMBER

Address orders to:

**THE CHAMBERLAIN GROUP, INC.**

***Technical Support Group***

*6050 S. Country Club Road*

*Tucson, Arizona 85706*

## Warranty Policy

### THREE YEAR LIMITED WARRANTY

The Chamberlain Group, Inc. ("Seller") warrants to the first purchaser of this product, for the structure in which this product is originally installed, that it is free from defect in materials and/or workmanship for a period of three years from the date of purchase [and that the Miracle-One™ is free from defect in materials and/or workmanship for a period of three years from the date of purchase]. The proper operation of this product is dependent on your compliance with the instructions regarding installation, operation, maintenance and testing. Failure to comply strictly with those instructions will void this limited warranty in its entirety.

If, during the limited warranty period, this product appears to contain a defect covered by this limited warranty, call **1-800-528-2806**, toll free, before dismantling this product. Then send this product, pre-paid and insured, to our service center for warranty repair. You will be advised of shipping instructions when you call. Please include a brief description of the problem and a dated proof-of-purchase receipt with any product returned for warranty repair. Products returned to Seller for warranty repair, which upon receipt by Seller are confirmed to be defective and covered by this limited warranty, will be repaired or replaced (at Seller's sole option) at no cost to you and returned pre-paid. Defective parts will be repaired or replaced with new or factory-rebuilt parts at Seller's sole option.

**ALL IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE THREE YEAR LIMITED WARRANTY PERIOD SET FORTH ABOVE [EXCEPT THE IMPLIED WARRANTIES WITH RESPECT TO THE MIRACLE-ONE™, WHICH ARE LIMITED IN DURATION TO THE THREE YEAR LIMITED WARRANTY PERIOD FOR THE MIRACLE-ONE™], AND NO IMPLIED WARRANTIES WILL EXIST OR APPLY AFTER SUCH PERIOD. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. THIS LIMITED WARRANTY DOES NOT COVER NON-DEFECT DAMAGE, DAMAGE CAUSED BY IMPROPER INSTALLATION, OPERATION OR CARE (INCLUDING, BUT NOT LIMITED TO ABUSE, MISUSE, FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE, UNAUTHORIZED REPAIRS OR ANY ALTERATIONS TO THIS PRODUCT), LABOR CHARGES FOR REINSTALLING A REPAIRED OR REPLACED UNIT, OR REPLACEMENT OF BATTERIES.**

**THIS LIMITED WARRANTY DOES NOT COVER ANY PROBLEMS WITH, OR RELATING TO, THE GATE OR GATE HARDWARE, INCLUDING BUT NOT LIMITED TO THE GATE CONNECTION, GATE ALIGNMENT. THIS LIMITED WARRANTY ALSO DOES NOT COVER ANY PROBLEMS CAUSED BY INTERFERENCE. ANY SERVICE CALL THAT DETERMINES THE PROBLEM HAS BEEN CAUSED BY ANY OF THESE ITEMS COULD RESULT IN A FEE TO YOU.**

**UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH USE, OR INABILITY TO USE, THIS PRODUCT. IN NO EVENT SHALL SELLER'S LIABILITY FOR BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY EXCEED THE COST OF THE PRODUCT COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS PRODUCT.**

Some states do not allow the exclusion or limitation of consequential, incidental or special damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# Installation Checklist

- ☐ 1. Owner and Installer must read all warnings and safety precautions. (Pages 4-7)
- ☐ 2. Make sure control box is securely mounted. (Page 13)
- ☐ 3. Operator arm must be **securely** and correctly fastened to mounting brackets. (Page 12)
- ☐ 4. Operator arm must be **level** in both directions. (Page 11)
- ☐ 5. When gate is pulled, **No** slippage of operator arm should occur. (Page 13)
- ☐ 6. Control box should be grounded to an earth ground rod within 3 feet. (Page 18)
- ☐ 7. Verify that both the battery and plug-in transformer are connected properly and **Property Owner** knows how to disconnect **all** power to the operator with battery plug and plug-in transformer. (Page 20)
- ☐ 8. Verify that the gate opens and closes as needed. (Page 26)
- ☐ 9. When gate hits object during operation, it **must** stop or reverse direction. (Page 28)
- ☐ 10. **Know how to operate the emergency manual release with the key.** (Page 33)
- ☐ 11. Make sure that any pinch point or potential entrapment are guarded by means of safety devices or like. (Pages 6 and 24)
- ☐ 12. Warning placards need to be permanently mounted on **both** sides of gate. (Page 4)
- ☐ 13. Test all additional equipment connected to operator.
- ☐ 14. Make sure all wire connections are **securely** fastened.
- ☐ 15. Review typical maintenance on operator. (Page 31)
- ☐ 16. Schedule periodic maintenance on operator by qualified service technician.
- ☐ 17. Inquire about Manufacturers “operator warranty”. (Warranty Card Included with operator)
- ☐ 18. Inquire about **separate** “installation warranty” with installer.

**Installer Company Name, Address and Phone Number**



**UL325**  
compliant



**UL991**  
compliant